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Agricultural.

HINTS FOR THE SEASON.

THE last month of Autumn is here. Summer, by gentle transitions, is passing into winter, and it becomes us to be looking round, and preparing for the blustering storms and extreme cold, which cannot now be far off.

Is the *fall plowing* done? If not, there is time yet. Heavy soils are greatly benefited by fall plowing. Every acre of such land will be worth a few dollars more for the next year's crop if plowed in the fall, besides the saving of time in spring, when work presses, and the cattle, oppressed with heat, are less strong to labor.

Newly-seeded grass lands, and especially permanent meadows, may now receive a coating of manure. Should it be *spread this fall*, or left in heaps till spring? The answers to this question, we apprehend, will be various, and contradictory; and all may be correct, with reference to the particular piece of land in view. We incline to the opinion that on newly-seeded land, not well stocked with roots, a fall dressing of manure, tends to strengthen what roots there are, and to cause an earlier spread and growth in the spring; and we believe that the fall spreading of manure may be safely commended, on old meadows inclining to be turf bound; but that it should be avoided in situations exposed to wash. It should be remembered that the manure that is removed from the yard and out-buildings this fall, will not have to be removed next spring.

Let the *plans* be laid now for increasing the quantity and value of the manure for next year. In some of our new States, manure is thought little of. Farmers there can get pretty good crops without it, and so think it cheaper, in some cases, to remove the barn than to get the manure out of their way. One Augeus, a big farmer he must have been, of olden times, is said to have stalled 30,000 cattle, we don't remember how many years, without having cleaned the stables. One of the twelve labors of Hercules was to clear these stables; and he is said to have turned a river through them, and to have made short work of it. Whether the farmers of a hundred years ago, on the Mohawk river, had ever heard of that expeditious labor of Hercules, and if so, whether they were wide enough awake to profit by his application of nature's laws to the cleansing of stables, we are not quite sure, but tra-

dition says that they were contented with a slower way, and so carted out their manure in winter and dumped it on the ice of the Mohawk, instead of turning that river across their premises. Their descendants are now sorry that the elements of that manure are not now in their land; and the descendants of Western farmers will be sorry for the same thing in less than a century. We believe that many in our new States are becoming sensible on this subject, and will avoid rather than imitate the example of the early settlers in the Mohawk valley. In the Atlantic States it is well understood, that the more manure, the more crops; the more crops, the more stock; and the more stock, if not more than can be kept well, the more profit. We would say, don't let winter come much nearer, without having in an abundance of cured muck, leaf-mold, or something of the kind, to absorb the liquid excrements of the stalls, and double the quantity of the manure. This implies labor and may necessitate the hiring more than you otherwise would, but it is more profitable, after all, to grow eighty bushels of corn to the acre than thirty, and you can do the first, with plenty of manure, but can hardly reach the last without it.

The preparation of fuel may, in many cases, be more advantageously attended to in autumn or early winter than after the deep snows have fallen. There is much gained by the use of seasoned fuel. It is true that wood may be too dry for profit. But much the greater danger is on the other extreme. So much water as is chemically decomposed contributes to both the light and heat of burning wood; and we do not despair of the time, when all our light and heat will be produced from water; but as yet, though it *can* be done, it cannot be done economically. If wood contains a large amount of water, the excess, instead of being consumed, is converted into steam; and it takes far more heat to change a quantity of water to steam than to bring it from a frozen to a boiling state, and all the heat required to change the water into steam is so much taken from the effect that would otherwise be produced on the temperature of a room, amounting in green wood to more than half of the whole. This last statement may seem extravagant; but we say give us one ton of wood that has lain in the sun and winds a few weeks and under a woodhouse a few months in preference to 2½ tons (allowing for the weight of the water) that is just cut from the stump. The gain in value, all will admit, is a large per cent on the original cost. If cut into cord-wood now, it will be a far pleasanter business to haul it home, or carry it to market in winter. The farmer gains much by anticipating his work, so as to be able to seize upon the best time for doing each thing. It is not yet too late to transplant shade trees. The only objection to transplanting at this season is, that the trees require more careful staking, as the ground is liable in freezing and thawing to be soft, and the trees to be blown out of position, and their roots, while but partially adhering to the soil, to be disturbed. Some kind of fruit trees, particularly the apple, may be set now as well as any other time in the year, only let them be strongly staked, to prevent the wind from blowing them about. A tree set in November will be forwarder by nearly half a year than one set in May, owing to the roots taking an earlier hold of the soil. Do not be content to live without pleasant shades and luscious fruits. You owe it to your family. The farm is on the whole the most favorable place to be born and to grow into life. With taste and intelligence to preside, and good sense to make home pleasant, more farmers' children will be virtuous and become distinguished than of any other class. The future good and great men of the country are to be grown on the farm in large proportions. But they

will come in far larger proportions from the well-managed than from the ill-managed farms — from those where such taste as is indicated in the cultivation of ornamental and fruit trees, in a general tidiness of the premises, in doors and out, and in whatever makes home desirable, than from those where things are ill-managed, distasteful and unpleasant.

The schools are now about to go into operation for the winter. Do not fail to throw your influence in their favor. Rather see that a good teacher is provided, than have the poor satisfaction of complaining by and by that somebody else hired a bad one; and visit the school occasionally, that if the teacher and the children do well they may have the encouragement of knowing that you see and approve of their doings.—Ed.

TRUE MISSION OF AGRICULTURE.

EDUCATION OF FARMERS.

Under this caption, we find in the *Wisconsin Farmer*, an article from the pen of D. S. Curtiss, of Madison, Wis., so much to our mind that we here give it to our readers. Every true patriot desires, that the farmers of our country, although they hold a position higher than in most if not all others, and in many respects really enviable, should rise still higher in the social scale, enjoy privileges more commensurate with the burdens they bear, and exert a still wider influence, to sustain sound morality, to stay the tide of reckless speculation, and to secure an honest administration of our admirable form of government. The importance of rightly educating the young farmer cannot be overestimated. His contemplated avocation, in order to its most successful prosecution, requires a liberally-cultivated mind and liberal attainments, as well as a strong arm. He has to deal with nature in a thousand forms and modes of operation. Why should he not study her laws? We have heard of thirty men with as many pairs of oxen, starting early in the morning, to remove a pine tree, designed for a mast, three miles to a landing place, and giving up in despair at sun-down. Five men, with ten pairs of oxen and a thimbleful of mechanical genius, would have removed it in the forenoon, and all got home by early dinner-time. It is not brute force alone, but cultivated mind that conquers obstacles. It is preeminently mind, directing labor on the farm, that renders labor effective and successful, and that secures a fair reward. We go in most earnestly for a liberal course of practical and scientific instruction to farmers' sons. The State of Michigan has done nobly to provide such a course and to make it free as air to all her sons. It will not spoil them for the farm. There is no danger. It will only make them better for the farm, or for any other of all the honorable and useful activities of life. But after all, the great mass of the future farmers, as of the past and present, will be self-made men, if made at all; men whom the primary school will start, and who will then go alone—reading, thinking, observing, investigating, compelling nature herself to be their teacher, attending to her instructions, instead of passing it by listlessly and coming from the field uninstructed. The benefit of science to the farmer, whether attained at the agricultural college, or dug out of his own soil, is now so manifest, that the man who possesses it will be willing to be called a "book farmer," if that will gratify any small, ignorant souls. The mass of farmers will advance in knowledge and in social position—in a salutary influence on the affairs of government and the welfare of the nation. So we hope. But read the following:

"In too many places farmers are inadequately respected, and imposed upon by some other classes of community, because of their lack of general knowledge, or their intellectual sluggishness—for their slowness to adopt, or aim at improvements, corresponding with, and in

the midst of a world full of active progress; a world of mechanical and professional operators, who constantly exert every faculty to improve and exalt their various avocations—and still, unfortunately, the farmer puts forth very little searching observation and *reasoning* efforts to increase the pleasant usefulness, and elevate the standard of *his* calling, except to increase the *number*, and not the *richness*, of his acres; hence his proverbial lack of faith for any great advancement in the sciences and attainments of Agriculture, and his too dogged disbelief when told of extraordinary products achieved by his more thinking and scientific brethren; he is slow to believe that others have succeeded remarkably, in results beyond his father's and his own; through the happy and efficient influence of publications and societies, this state of things is slowly but surely passing away.

"And they must shake off this ignoble tendency to follow in the *old ruts*, with no ambition for improvement, before they can take that honorable and pre-eminent position among intelligent beings, which the true nature of their calling entitle them to occupy, if properly appreciated and improved by themselves. Had the same slowness of improvement and lack of thinking-invention always hampered the mechanics of our country, we should not now rejoice in our improved plows, harvesters, cultivators, and grand facilities for traversing land and ocean; to this glorious advance we are only *followers*, when from the nature of our business, we ought to be foremost and *leaders*, in improvement. Our avocation, AGRICULTURE, is the source of all sustenance, the broad basis which furnishes demand for all other legitimate callings—the fountain of all true wealth, upon whose prosperity depends the prosperity of the other pursuits.

"It is the vital and natural character of Agriculture to afford employment and support to all others—it is the *true mission*, and should be the dignified *aim*, therefore, of our favored profession to encourage all to the highest improvement, by making our own as highly productive and pleasurable as the best use of *all* our faculties will enable us; this is our glorious privilege—our imperative duty. Yet, artizans and merchants are outstripping us on every hand, with the speed of steam and lightning.

"This need not, should not be; with a proper and equal exercise of reason, observation and science, the farmer may pleasantly lead—at least keep pace with—the best, in life's business discipline and temporal conquests. They who subject fire, and water, and wind to toil for man, are blessings to their race; but no more blessed encomium has been pronounced on any of them than upon him who "causes two blades of grass to grow where but one grew before," for he is pronounced "a benefactor to our race;" and this is accomplished by the *mind* of man bringing *science* to work with his *hands*, upon soils and seeds, to secure their utmost product under the economy of nature.

"Here is one beautiful fact in favor of agriculture, which should make every farmer ambitious for the highest possible attainment in his calling—it is that his success is promotive of the prosperity of all other proper callings—promotive of the general welfare—which is not the case with many other pursuits; in most operations one man's gains are acquired at the expense of another man's losses—the few become rich by making the many poor. The professions, for instance, and they are necessary, produce none of the elements of living, but their successes are mainly based upon the vices or afflictions of others; the merchant, however useful, really adds no new wealth to the world—he produces nothing, but simply as a factor, shares the profits on staples produced from the earth. Not so with the farmer, he does not necessarily abstract any portion of

his gains from the operations of other professions—he is independent of them all for the realities of wealth—they are all dependent upon him for sustenance. But in these remarks there is no disposition to disparage any lawful pursuit—I honor and cherish them all in their usefulness—I wish, simply, to draw the rational comparison, and stimulate the farmer to a more lively and adequate appreciation of his own position, and excite a greater industry in his mind, by making him realize the importance of his mission.

"All others depend upon him for provisions and support—it is his privilege and mission to give business and prosperity to all others; while all of his wealth and gains are raised from the free, bountiful earth and air, which Providence supplies in munificent abundance—inviting intelligent occupation, and promising corresponding reward, *without loss to any fellow-being.* The *farmer makes no improvement in procuring the products of the earth without, in some degree, extending the benefits to other classes*—increasing the products of the soil necessarily increases the substantial wealth of the world. Therefore, the true and intelligent farmer must realize that in his glorious and eminent mission he is liable to accountabilities corresponding to his rich privileges. This consideration alone, if there were no other, should induce the farmer to exert his every power and capacity to elevate, to the highest, his position and calling. It is the central, vitalizing pursuit of life, from which flows all the chief supports of the industrial system; and as the central fountain is sound and elevated, so will the extremes, more or less, be; for, as the heart pulse beats high and healthy, a lively impulse is felt throughout the whole body; and in proportion as it is vigorous will be the frame. And so with Agriculture—as its advancement and prosperity is fostered and accelerated, so will the general welfare be promoted.

"In this light, Agriculture presents the noblest field for the earnest philanthropist, as well as the ambitious producer; for there is a deep satisfaction, to a generous mind, in the pursuit of a useful calling; and it greatly rejoicing him to see rich benefits accruing under his hands to his fellow-beings; such a cultivator is a double blessing to his race—his labors feed their bodies, and his example stimulates their minds to noble efforts.

"Such a class of farmers would be under no necessity of calling on lawyers, doctors, ministers, and others to deliver their annual addresses at the fairs, and do other thinking for them; nor of selecting most of our public officers from other ranks; nor yet of placing their sons in stores and offices to secure respectable positions in society—for none would be found higher or more respected than their own. If this article shall inspire an elevated ambition in the mind of a single one of my-fellow laborers, I shall feel amply compensated for this small effort."

NEW-JERSEY STATE FAIR.

This fair was held at Trenton on the 14th, 15th, 16th and 17th of September, and was "a success," if we may judge from the report of the *New-Jersey Farmer*, bringing out more fine animals than any former occasion, and a larger gathering of the people. The following is a part of the charge of the president, Mr. Isaac R. Cornell, to the judges, and is so good, that we wish it could be stereotyped and read at all future fairs;—

"In your examinations let there be no partiality. Let justice be done to all classes. Do not omit to examine every thing thoroughly. Beware of outside influences, but let your judgments be made up from the most careful and impartial examinations. Sometimes men are apt to be swayed by other circumstances, but he felt satisfied that there were no such men here, and that all felt

too great an interest in the credit of the State to do anything but strict justice. You will find to-day the finest race of animals ever before exhibited. You have an opportunity, therefore, of giving an impetus to the propagation of good stock. If there is an unsound animal on the ground turn him out—no matter what influences may surround him."

President Cornell's address to the Society, which we copy from the *New-Jersey Farmer*, was short, but embraced a good many interesting and important facts, as follows;—

"It is customary in Agricultural societies to bring before the public a popular speaker to give zest and variety to their fairs. But, for special reasons, this year the duty has been assigned to the President.

"I will not detain you with many words, but briefly point out the advantage of fairs and our reasons for holding them.

"Our object is to increase the quantity, and improve the quality, of the productions of our State, and introduce new ones suitable to our soil and climate, and to do all in the most economical way; or in plain words, make farming profitable.

"I believe all will agree with us in this particular, but the question may be raised, How can this be brought about by fairs? We answer, read the history of agriculture, and you will find, in every age, the farmer a man of strong prejudices, and ambitious only to own many acres, and that writers in every age have striven to overcome their prejudices. We find writers on agriculture reach back to a period nearly 3,500 years from the present time, and strange to say, the mode of agriculture in those countries remains nearly the same up to the present day.

"The Egyptians were considered the fathers of agriculture, but men of strong prejudices. True, Pharaoh rose above the prejudices of his people when he employed Jacob's sons to take charge of his cattle—but such men were rare. Nor do we anywhere read of his trying to introduce this superior knowledge among his subjects.

"The Greeks and Romans had many writers—their statesmen and generals made the cultivation of their farms their chief study, and wrote volumes on the subject. Cato, Virgil and Varro—Romans—all wrote well, and they carried the art to considerable perfection. Many of their works are good to this day, and the Roman soldiers made good farmers. Their military education gave them perseverance, exactness, regularity and order, and no man wants these more than the farmer; and in every age we have had the essayist and long treatise against the folly and ruin of owning too much land. Isaiah pronounces a curse on those who lay field to field, and yet the writers accomplished but little.

"Varro laments it, and despairs of doing good. Even the great men did not read his books, but went, as he says, to reside in the cities, and spent their time more in the theater and circuses than in the cornfield and vineyards. And so it was. For in 1584 the Italians were in a miserable condition—poor, proud, and lazy, and Pope Sixtus forced them to work to pay the taxes their extravagance and indolence had brought on them.

"God spare our people that they may not so far forget, in the theaters and operas of our cities, what is due to agriculture, or let the luxuries of the city engender so much indolence in them as to raise up a Pope Sixtus to force them to work.

"The clergy, too, once took great interest in agriculture, and worked in the fields—the Norman clergy in particular. The famous Thomas á Becket, after he was Archbishop of Canterbury, went to the fields with the monks of the monasteries where he was residing, and joined in the labor of getting in the hay and harvest. But his excellent example is now lost.

"Special laws were passed to protect and encourage agriculture. In 1214 a severe law was passed in Scotland against those farmers who did not extirpate a pernicious weed called guilde, but the weed still grows.

"The Board of Agriculture was founded by the British Government in 1795, and published many volumes, but effected no good, if we except the salaries paid to the officers, and the profit of the printers in publishing their long reports.

"And so I could go on for hours to show that writers availed but little, and special laws were of no value. Until the farmers themselves joined in forming Agricultural societies and holding fairs, no great progress was made in the art. The Highland Agricultural Society done more for agriculture than all the writers on that subject since the world began. Its history and operations are well worth reading. They made books benefit farmers, and they spent the appropriations of the government to great advantage.

"Now let me illustrate the benefit of fairs in the history of the reaper. Seventeen hundred years ago a reaping machine, driven by animal power, harvested wheat on the plains of Gaul. Yet it was never in common use, though it was a great labor-saving machine. Mr. Boyer obtained, early in the present century, the first patent for a reaper. Then from 1811 to 1815, Smith, a machinist, tried to introduce his machine, but gave it up for want of encouragement.

"In 1822, Ogle, a schoolmaster, invented a reaper, but the farmers would not use it.

"In 1828, Rev. Patrick Bell got up a new machine, but with no better success, and many others, not forgetting our own countryman, Mr. Jeremiah Bailey, in 1820, which though said to be a good reaper, was not put in use.

"It was reserved for the great Fair at the Crystal Palace, England, to exhibit, bring out, try and put in general use that implement; it was the agitation of the subject, brought about by its exhibition at that fair, that brought the reaper in general use in so short a time, and has produced what is now on exhibition, many reapers and mowers, and though of different structures, yet all so good we scarce know which to call best. I could give further evidence of what fairs have done, but I trust this one is sufficient to justify us in giving an annual fair.

"We do not expect all the articles on exhibition perfect or useful, but in this fair men may bring their inventions before the people, and hear their merits and faults commented on, and each man will judge for himself in all that interests him.

"It is by agitation that truth gets uppermost, and I will guarantee any inventor if he can get up agitation on the subject of his invention, he will soon find out its real value.

"If a farmer comes, he will see many new things, he can hear their merits discussed by friend and foe, and he will soon learn their true value. The farmer of strong prejudices may, on leaving home, imagine he and all his teams and tools are perfect, but will go home with a very different opinion.

"The young farmer who has left at home his scrubby, raw-boned horses, cannot look on the fine exhibition of horses here to-day, without a feeling of shame for what he has at home, and will in future find better food, and use the curry-comb.

"Many neat housekeepers will visit the fair and look with pleasure on the fine butter, and remember with pride her own clean dairy, but may there not be one not too particular who will be benefited by what she may see and hear to-day about dairies?

"Can the parson go over the ground without benefit? Will he not, after seeing all our wonderful and labor-saving machines, be more zealous in giving glory to God for the power he has given

to man, and teach him to praise the Great Creator for his overflowing bounty, when he looks at the luscious fruit and beautiful flowers?

"And here, too, may the rich man and the merchant, the lawyer and doctor, have brought back to them the remembrance of the old farm, its streams, and trees and shades; be carried back to his first love, mother earth, and lend his aid to adorn and improve her, and hasten the time when this beautiful State shall be cultivated in perfection by none but intelligent, well-educated men and women."

The reporter of the *New-Jersey Farmer* remarks in conclusion as follows;—

"The accommodations for everybody and everything on the grounds were ample, and gave great satisfaction. We never before saw so many people together, and never before met with so much order and decorum. There were no cases of drunkenness or rowdyism in the inclosure, and not a single case of fighting. The police arrangements were excellent. It was a subject of commendation with every one, and we were rejoiced to find it so general. It must have given general satisfaction to the managers to have seen the spirit and energy displayed by the officers in every department."

QUERIES ON ENTOMOLOGY.

Messrs. Editors:—I ask so many questions that, I doubt not, you will consider me a mere tyro in science, and rather a troublesome correspondent. Well, be it so; you will judge correctly—I plead guilty to the charge, and this, I think, is the best I can do, under the circumstances. But I think it has somewhere been said, that "a knowledge of our own ignorance, is the first step towards wisdom." If this be so—and we have no reason to doubt its correctness—then my case is not entirely hopeless. No one should expect to become learned in all branches of science. If to ask questions is an evidence of ignorance, it is also an evidence that we wish to become wise. We believe, also, that you are good-natured, as all editors ought to be, and willing to give information on all subjects relating to the farmer's interest. But to the subject.

There are some things in the history and habits of insects, or science of *Entomology*, which have always appeared mysterious, and we have never been able to find a satisfactory solution of them in any work written on the subject. Our meaning will be better explained by a few examples.

We shall begin with the *Flying*, or *White Weevil*, in wheat. What is its origin? or how does it propagate? We know that it comes *out* of the grain; but *how* does it get there? If the egg is deposited in the grain, at what stage is this done? and how is it that the grain will grow and mature with an insect within it? It would seem that almost every grain of wheat contains a *pupa* or *chrysalis*, and nothing but a favorable circumstance is wanting to bring it to maturity, and cause it to escape, like a chicken from its shell. This insect may be killed by heat, either in a kiln, or hot sun, if it is done immediately after the wheat is harvested, or before the insect makes its escape. It is said, also, that if wheat is put up in large quantities, a heat will be generated sufficient to destroy the insect.

Again, let us take our common garden *Pea*. This contains an insect, or bug, which invariably makes its escape after the pea is matured and dried, and will remain alive until spring. This bug does not seem to prey upon the germ of the pea, so as to destroy its vitality, for it will vegetate and grow as well as if it had never been perforated. It is remarkable that peas brought from the North are free from this insect. Whether it has been destroyed by artificial means, or whether the climate does not produce it, I cannot say. Whether the weevil

is equally generous in leaving the germ of wheat unimpaired, I know not, having never made the experiment.

I have sometimes put away *Beans* for seed, and in the spring they would be so perfectly riddled with holes, through which the insect had escaped, that they were entirely worthless.

Again, it is no uncommon thing to find worms—the *Curculio*, I suppose—in fruit, particularly the peach, which can only be accounted for on the principle that they were deposited there at a very early stage, and matured with it. Such fruit is generally of diminished size, and falls off before maturity; but, in some instances, we have found these unwelcome guests snugly ensconsed in the choicest part of full-grown and well-matured fruit, feasting on juice that a king might covet; nor does he tell *how*, or by whose invitation he got there. No puncture is visible on the fruit. It must have been bred within, but *how*, or *when*, is the question.

We often find worms also in *Chestnuts* of full growth, and apparently sound, with no signs of puncture or hole in the shell; of course they must have had their origin *within*, and there matured, subsisting on the kernel, until it had acquired sufficient strength to pierce the shell and make its escape.

And still more unaccountable, we find worms in *Hickory-nuts*, which appear perfectly sound outside. We suppose this to be the same species of worm as that in the Chestnut, and after it matures, it bores through the thick, hard shell, that a knife cannot pierce.

Sometimes we are forced, almost against our will, to believe things which we cannot understand. How these insects are deposited, so as not to injure or retard the growth and maturity of the grain or fruit; and how they live and thrive on the nutriment, without air, and then to pierce the hardest shell, is very mysterious.

Some persons maintain the theory that certain animals exist *necessarily*, or have their *origin from nothing*, and they point us to worms in the human system, etc. But this theory we cannot adopt. It seems subversive of nature's laws, and leads to Infidelity, and even Atheism. This is but a revival of the old exploded heathen philosophy, that a due proportion of heat and moisture is all that is necessary to produce animals. We believe, according to the old saying, that *Ex nihilo, nihil fit.* Nature has a law for the production of all animals, and we have no reason to believe that she ever departs from that law. (We suppose that in all the cases referred to by our correspondent, and in others like them, the eggs are deposited in the bud or blossom, and young fruit.—Ed.)

While on this subject, I may as well mention the mysterious ingress of the Chinch, or Bed-bug. It seems that this most disagreeable insect will intrude itself upon us in spite of all our efforts. *How*, and *from whence* does it come?

Now, Messrs. Editors, can you have patience to answer all our questions, or point out some Treatise that will give a satisfactory explanation? and oblige

Yours truly, J. R. B.

Rosemont, near Nashville, Tenn.

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The articles in our Sept. and Oct. Nos., to be followed by others of a similar kind, will answer a great many of our correspondent's questions. We intend to publish, from time to time, such articles, from the best authorities, as will throw light upon this subject, more especially with regard to insects hurtful to Agriculture, Horticulture, and the fruit crops.—Ed.

GREAT CROP BY LIQUID MANURING.

It is stated in the English papers that J. Nelson, a farmer on the Earl of Derby's estate, about eight miles from Liverpool, raised 100 tons of Italian rye grass, last year, on one acre of land, by

liquid manuring; that the soil was previously fertile and well drained, but never had yielded anything to compare with this crop.

About believing this! Let us see;—is it possible that 100 tons of that succulent grass should give off 85 tons of water in drying, leaving 15 tons of dried hay? As the seasons there are longer than here, may not that prolific acre have been mowed five times? If so, it would imply 3 tons of dried hay at each cutting—a rather hard story to believe after making the best of it. Our readers can do as they please. We should beg to be excused, if we had not seen enormous crops of grass on irrigated land in that Island only five weeks after an equal crop had been removed, and heard farmers there say that five such crops could be grown between January and December. After what we have seen, we are prepared to swallow anything in that line that is not too tough. The power of liquid manuring on the grasses is certainly very great, whether his lordship's farmer raised 100 tons of grass on a single acre, in one year, or not.

FARMING—FUTURE PROSPECTS OF NEW-JERSEY.

The following applies almost equally to any of the Middle and Eastern States, and offers considerations adapted to make Eastern farmers better contented with their lot than some of them have been.

"A mania for speculating and the desire for realizing sudden fortunes, seems to have been the besetting sin of Young America for the last few years, and the old fogy who was willing "to earn his bread by the sweat of his brow," and content to receive six per cent for his money, was voted entirely behind the age, and not at all conversant with the facts and figures of modern arithmetic. Now the bubble has burst, and the real value of stocks and paper towns is more apparent—yet it is confidently hoped and believed, by such as have indulged in idle dreams of full and plenty during the heat and burden of the day, that owing to the *pressure* the material wealth of the country is to be sold for a song, and that they have only to say, 'open sesame,' and the productions of the earth will be strewn in profusion at their feet—but they are again to be disappointed.

"On account of the gold discoveries and the Western fevers, which have taken away so much of the strength and enterprise of our State, farming has been for the last few years more than usually laborious—but, thanks to the improved implements and machinery which necessity has compelled us to invent and use, one intelligent man can now do more than three times the amount of labor in cultivating and gathering his crops than could be done five years ago.

"Should the prices of produce get to a low figure, then large numbers of those in the more remote parts of the Union will be induced to return to the older States, where farming will always pay on account of our nearness to markets, and the small expense in sending produce forward.

"It is already ascertained that after a brief period of exhaustive tillage, the lands of the West need manuring the same as here.

"Is not the rapid increase of the insect tribe, which the cultivation of the vast prairies has developed to such an alarming extent, due to the scarcity of trees and shelter for the protection of the small birds which feed upon them?

"One of the most enterprising citizens, and perhaps the largest landholder in the State, has said that land will be valuable in proportion to its proximity or remoteness from New-York, the great commercial center of this Western world.

"We certainly do possess advantages

which no other State can boast of—a climate pleasant and healthful—a soil easily worked and capable of producing almost every variety of vegetables—and an abundance of fertilizers within our borders, which, when more fully developed, will bring it to the highest degree of productiveness.

"The crops grown on a few acres of ground, here and there cultivated by a liberal and judicious hand, show that our State may justly be styled, what the noble Lafayette called her years ago, 'the garden of America.'

"And as the soil of New-Jersey was, during the Revolution, the chief seat of its most sanguine battles, so may it now be, in time of peace, the chief seat of agricultural prosperity and advancement. —J. B. W., *in N. J. Farmer.*

SPLIT POSTS *vs.* SAWED POSTS.

Judge Caton, of Ottawa, in this State, gave us his experience the other day in relation to spliting fence posts. He says that cedar posts which have been split with a saw decay much quicker then if split with an axe. He has both kinds in use, the sawed ones are rotten and rotting, the split ones are sound as when set. We have noticed the same thing in chestnut posts.—*Emery's Jour. Agr.*

STEAM CULTURE.

The steam plow would appear to be nearer a realization then many might suppose. The Salisbury failures are already forgotten, or satisfactorily explained. Mr. Smith, of Woolston, has now, it is said, upwards of thirty of his implements in use. Mr. Fowler still continues to work by contract; while Mr. Remaine is in better heart than ever as to the success of his scheme. The great test of such a process is becoming practically susceptible of an application. There is to be economy in every possible way—a saving of money, labor, and time. The work, too, is to be better done, and the results proportionably greater. Mr. Smith, Mr. Mechi, or Mr. Fowler will either of them testify to a quarter more per acre, where steam power has superseded that of horses. The improvements of late have been, in fact, so striking, that we are told to look upon the experiment as accomplished. Mr. Smith has sold his cart horses, and talks not only of what he himself, but what his brother farmers are doing. Mr. Fowler is still more decisive in his dicta; as far as steam plowing is concerned, he considers his task done.—*Mark Lane Express, London.*

THE BEST WAY TO FATTEN HOGS.

"A pig or hog will improve faster, when alone in a pen, than when shut up and fattened in company with others. Although I can assign no satisfactory reason for this, unless it be that the solitary hog is more quiet and undisturbed while feeding; yet I think that those who are willing to try the experiment, will find it to be a fact."—*Ex.*

Is it so? We presume it is; for, as our recollection serves us, we have seen a great many fine porkers that were fattened alone, quite out of the hearing of any other of the species, but it is contrary to what we should expect, for all animals seem to enjoy a sort of society, a kind of fellow-feeling, with each other; and it would be natural to expect, if experiment showed nothing to the contrary, that its indulgence would be favorable to the process of fattening. It may be otherwise with very *selfish* animals.—Ed.

THE WHEAT MIDGE.

[From the prize essay of H. Y. Hind, Professor of Chemistry at Trinity College, Toronto, C. W.]

ORIGIN OF THE WHEAT MIDGE.

This destructive insect has long been known in Europe; during the latter half of the past century it attracted general attention on account of the ravages it committed in various parts of Great Britain. Simultaneous with its appearance in

America in the northern part of Vermont in 1828, it occasioned great havoc in Scotland and England, creating universal alarm in many of the best wheat growing districts of those countries.

In 1828, the ravages of the wheat midge in Northern Vermont became so general as to cause serious apprehensions for the wheat crop. In 1829 these fears were confirmed by the appearance of the fly in such countless numbers as to threaten the entire destruction of the growing grain. Its spread was so rapid and uniform in all directions where its favorite food was cultivated, that, in 1832, we find the wheat crops greatly injured or altogether destroyed in Vermont, New-Hampshire, part of New-York and Pennsylvania, and damaged over a large area in Lower Canada.

Doubts have been expressed by European entomologists as to the identity of the American wheat midge with the *Cecidomyia tritici*, described by Mr. Kirby. In the spring of 1855, however, Dr. Fitch sent some specimens of the American insect to M. Amyot, a distinguished French entomologist. At the meeting of the Entomological Society of France, November, 14, 1855, M. Amyot announced the results of a most rigid examination, which he, in company with M. Lucas, had submitted the specimens sent to him by Dr. Fitch. These entomologists find the American insect perfectly identical with the European *Cecidomyia tritici*, or wheat fly. This announcement leads to the conclusion that our wheat midge is an importation, as is the Hessian fly; and an examination into the habits of the insects exhibits no peculiarity which can militate against the adoption of this conclusion.

In 1740, the wheat fly was destructive in Scotland, during the winter of which year the Thames was frozen over. In Ellis' Modern Husbandman for 1745, the attacks of the vast numbers of black flies (the ichneumon parasites) are noticed in the following quaint terms: "After this we had a melancholy sight, for as soon as the wheat was done blooming vast numbers of black flies attacked the wheat ears, and blowed a little yellow maggot which ate up some of the kernals in others part of them, and which caused multitudes of ears to miss of their fulness, acting in some measure like a locust, till rain fell and washed them off; and though this evil has happened in other summers to the wheat in some degree, and not done much harm, yet if the good providence of God had not hindered it, they might have ruined all the crops of wheat in the nation."

HISTORY OF ITS PROGRESS.

The following records of the appearance of this destructive insect will furnish a tolerable idea of the extent of its ravages on the American continent:—1820, Wheat midge first appeared in W. Vermont. 1827, Occasioned injury in Athens County, Ohio. 1828, Committed extensive deprecations in Northern Vermont, and the frontiers of Lower Canada. 1829, Greatly destructive in Vermont and parts of Lower Canada and New-Hampshire. 1830, Appeared in North-eastern New-York. 1831, Considerable injury in Eastern New-York, 1832, Very destructive in Eastern New-York; cultivation of wheat abandoned. 1834, Commenced its depredations in the State of Maine. First appeared in numbers in Lower Canada, near Montreal. 1835, "7th or 8th July, 1835, I discovered the fly on my wheat in myriads. They disappeared on the 11th or 12th July. They appeared to be depositing their eggs in the glumes of the ear in the 7th or 8th July. Six or eight days subsequently live maggots were produced. The earliest wheat was all destroyed. A part of my wheat that was not fully in ear when the fly appeared, was not so much injured. The tops of the ear had the maggots, but the lower part that was not shot out was uninjured."—(Evans). Considerable injury from the wheat midge on the Island of Montreal.

1836, Fly seen June 29th, and commenced depositing eggs in Lower Canada on the 4th July. Wheat on the Island of Montreal greatly damaged. The fly extended its ravages west and northward of Montreal for many miles. 1842, Appeared in Western New-York. 1845, Very destructive in Western New-York. 1846, Approaching Seneca County, New-York. 1847, Destructive in townships north of Seneca County, New-York. 1848, Appeared in Seneca County, New-York. 1849, Committed ravages in the County of Lennox, Upper Canada. Prevalent in Abington, Hastings and Frontanac. Disappeared from Monroe County, New-York. Destructive in Seneca County, New-York. 1850, Wheat midge greatly increased in the County of Hastings, Upper Canada. Also in Prince Edwards and adjacent counties. The following notice of its progress contains some facts and observations both interesting and valuable:

"To account for this (the low average of the crop) it must be observed that the weevil (wheat midge) has been very destructive, having been two years in the county, and in its journey westward has reached about the center of our western tier of townships; some few instances have occurred of its having been found beyond that limit. We cannot but expect that next year it will be still more destructive; one fact, however, is well established, that in *early* situations on *early* spots, where the seed was sowed *early*, there was little or no weevil (wheat midge). In low, damp, late situations, and where late sown, it has been extremely destructive, especially in the eastern part of the country, where it first appeared. This important fact ought to be well remembered by our neighbors to the west of us, where they will have it undoubtedly in a very short time, and exertions ought to be used by them to sow early, and early kinds of seed, to drain the land well, and make small ridges, and otherwise expedite the growth as much as possible. The early sowed Soule wheat escaped last year, in many instances, in the very center of the weevil's destructive ravages. The maggot is generated from a fly-blow deposited in the blossom by a very small greyish fly, with a very small stripe of orange down the back, and it is most busy when the wheat is in full blossom, about the first of July.

In the Canadian Census Report for 1851, we find the following remarks on the progress and destructiveness of the wheat midge in certain counties of Upper Canada, during this and the following year. They are from the pen of the able Secretary of the Board of Registration and Statistics, William Hutton, Esq., whose experience, position and practical knowledge, confer the highest value upon his views and statements:

"With perhaps equal advantages we find an enormous discrepancy in some of our own wheat growing districts. In the year 1850, the township of Esquising, in the county of Halton, produced 26 bushels of wheat to the acre, and that of Adolphustown in the county of Lennox, only six bushels to the acre, and this with soil and climate perhaps equally good. This is at once accounted for by the ravages of that fearful plague to the farmer —the weevil. The worst wheat crops in Canada West, in the year 1851, were in those counties where the weevil was prevalent. It committed the most serious depredations, in very many cases having rendered whole fields of most promising wheat not worth the threshing. This fly, which deposits its larvæ in the blossom of the wheat in order to feed upon the milk of the grain as it ripens, was, unfortunately, in that year most abundant in the counties of Frontenac, Lennox, Addington, Hastings and Prince Edward, and is traveling gradually west at the rate of about nine miles every summer, and remains from five to seven years in a locality. The only prevention

yet discovered has been to sow early seed on early land, and very early in the autumn, so that the wheat may blossom before its enemy takes wing, the period for which depends much upon the earliness of the season. So destructive was the fly in 1851, that the fine agricultural county of Lennox produced only six bushels per acre, Hastings about ten, and Prince Edward, Haddington and Frontenac about eleven. It had not in that year reached the county of Northumberland, but was very destructive in that county the following year, 1852." Contrary to expectation, did not commit ravages in Seneca County, New-York. 1851, Very destructive in Frontenac, Lennox, Addington, Hastings, and Prince Edward Counties, Upper Canada. Destructive in the great wheat district west of Cayuga, New-York. 1852, Committed excessive ravages in late wheat in the county of Hastings. Destructive in Northumberland; traveling westward. The subjoined notice is by the author of the preceding quotation:

"They are numerous in this county in late wheat—*very* numerous in later, and *very, very* numerous in the latest. I should say that very probably one-half (certainly one-third) of the whole wheat of this county is destroyed by this weevil. I saw the fly about the first of this month, (July 1852,) almost forming a little cloud, proceeding *westward*. It will be in Murray and Sydenham this season, and will proceed westward from seven to nine miles each year. The only remedy I can perceive as yet, is *very early* sowing on very early ground, well drained, of very early kinds of grain. I have four fields of wheat; in the *earliest* there is little or none, except where there was aftergrowth, but it becomes worse in each field in proportion to its lateness, either in whole or in spots. Perhaps, through your valuable journal, you will be able to hurry the farmers west of us in their preparations for wheat sowing, and thus do a world of good, as the progress of the weevil is as certain as the progress of time itself, and how great a scourge it is—few of our brother farmers in the West are aware. The Soule and Hutcheson wheat appear to be the earliest, and will be ready for harvest with me, and around me, on the the 22nd of July, which is early for this season. I can not say exactly *why* the earliest wheat is the safest, but I dare say nature provides that the fly comes to its natural strength at the *usual* time for wheat to blossom; and if the wheat be *earlier than usual*, the grain is too forward to nourish its deposit. This year the coldness of the season retarded the *animal* creation probably more than it did the *vegetable* creation, and this may be another reason why the fly was too late for early *sown* wheats." . . .

Weevil (wheat midge) common and destructive in Vermont. Not generally prevalent in New-York. "The weevil has done us no injury yet in Genesee County, New-York." Destructive in Westmoreland, Pennsylvania.

1853, "The Weevil (See Patent Office Reports) has made its appearance in some localities in this part of our State, but not in sufficient numbers to injure our crop."—J. D. Verres, Wayne County, Michigan.

"The midge or weevil has done a great deal of damage to our white wheat." "The Hessian fly has not for many years done us any injury."—G. Wiborn, Ontario County, New York.

"The wheat crop was less with us than an average last season, in consequence of injury by the weevil."—James De Mott, Seneca County New-York.

Midge appeared in moderate abundance in Northumberland and Durham, Canada West.

In Mr. Principal Dawson's "Scientific Contributions," we find the subjoined general notice of the wheat midge in Nova Scotia: "The wheat midge has in recent times been the most destructive of all wheat blight." Hence we may

consider it established in Nova Scotia.

1854, *Maine.*—Wheat midge destructive. "Wheat has been almost entirely neglected for some years past on account of the weevil; but it is again assuming a place in the fields of our farmers with fair success."—E. Weston, Somerset County, Maine, P. O. R.

Western New-York. — Committed dreadful ravages. Estimated loss in the State exceeding nine million dollars. *Pennsylvania.*—Destructive. *Northern Ohio.*—Destructive. Very general and destructive throughout the northern wheat growing districts of the United States. Destructive in Grand Bay, Saguenay, L. C.

"In almost every section of the State of New-York, where the wheat crop is grown, the ravages of the wheat midge have been most extensive, especially with the white wheat. The Mediterranean wheat, when early sown, has generally escaped. Assuming that the loss was one-third from this cause—although it was probably considerably greater—it is represented in money value (at $2.15 per bushel, the average price,) by $9,403,012.85.—(Abstract from N. Y. S. A. S. Report, 1854. Ste. Agr. Meeting.")

"The pecuniary loss which our country has sustained from this insect, is incalculable; but it is truly appalling, nay terrific. Some writers have thought that a wet season favored the increase of the midge, but in this country it has never been more destructive than it was in the summer of 1854, noted as one of the driest seasons known. In gathering the agricultural statistics of that year, our State Agricultural Society inserted in its circular the query: 'To what extent was the wheat crop in your vicinity injured by the midge?' And the answer to this inquiry furnishes us with quite authentic information on this topic. The able and efficient Secretary of the Society, Hon. B. P. Johnson, informed me, that on getting together all the replies to this inquiry, and placing every thing at the lowest figure, so as to be certain the estimate was within the truth, the wheat which this insect had that year destroyed in our State, at its then current market price, exceeded in value *fifteen millions of dollars!* This amount would be more than a third larger, if estimated at the price to which wheat afterwards arose last winter. Truly it is a formidable enemy, that has the power to take such an amount of money from the pockets of our citizans in a single year."—Asa Fitch, M. D., "Rural New Yorker," 1856.

As every fact connected with the midge is of importance, the following caution from the "*Genessee Farmer*" is appended.

"*Weevil.—Caution to Farmers.*—The Hon. E. Blackman, of Newark, N. Y., exhibited to the writer samples of Timothy seed obtained by him at Buffalo, which was literally alive with weevils. The seed was understood to be from Ohio; and most of the seed from many parts of that State, having been obtained from grass in the wheat crop, the weevil falls into their timothy seed and thus is sown broadcast over the land. As the insect lives through winter, or in some other way appears in the same locality every season, it may be possible that the sowing of this seed containing them may hasten the general prevalence of that dread scourge throughout the entire wheat-growing section of our State. Ought not farmers to be on their guard against thus distributing destruction to their crops of wheat?"

1855, Very destructive in the counties of Northumberland and Durham, C. W. In Lower Canada, wheat badly damaged by fly in Grand Bay, Saguenay. Not generally prevalent in the United States. This is one of the peculiarities of insect life before referred to, in paragraphs 24, 159. Being most abundant and destructive generally in 1854, and in certain localities absolutely ruinous, the succeeding year finds it dwindling away into

an insignificant and almost forgotten pest; yet numberless examples show how little the causes which govern its increase are understood, and how immensely deserving they are of most careful study over the wide areas on this continent where wheat is cultivated.

1856, Wheat fly common on the lake shore counties west of Toronto. Committed excessive ravages in the counties bordering on the Niagara River. Estimated loss in Canada from the wheat fly in 1856 probably exceeds $2,500,000. Made its first appearance in the county of Middlesex, C. W. General but not destructive along the Detroit River. County of Wellington affected. Common in the county of Peterborough. Common in parts of Maine. Destructive in County of Saguenay, L. C. In the township of Thorah, C. W., hitherto considered altogether free from all insect wheat pest, except "grasshoppers;" in some instances the top kernals of wheat were found partially attacked by a "small light brown worm, with a black head," thought to be the "weevil." The intervention of a thunder shower preserved the infested ears. Whether this insect be the larvæ of the midge, is quite uncertain, and a notice of it is introduced to show that even so far north and east, as the Townships of Saguenay and Thorah, the midge, *or another* wheat depredator, is attracting attention, and perhaps silently establishing a home.

DESCRIPTION OF THE WHEAT MIDGE.

A small orange-colored fly, (or flies, as there are several species,) with delicate transparent, irridescent wings, and long slender legs. The length of this insect is about the tenth of an inch, rather less than more; the breadth of its expanded wings slightly exceed the tenth of an inch. A good magnifying glass is required in order to distinguish the following particulars.

THE CLEAR-WINGED WHEAT MIDGE.

The eyes of the female *clear-winged wheat midge* (*Cecidomyia tritici*) occupy two thirds of the entire head. They are large, of a deep black color, and are separated from each other on the top of the head only by a light and almost imperceptible cleft, so that when viewed in front they appear like a continuous broad black band surrounding the head. The face is pale yellow. The antennæ are of a deep brown or black color, less intense than the eyes, of the same length as the body, and composed of twelve joints. Each joint is commonly oblong, with a contraction in its middle, and is surrounded with a row of hairs near its base, and another near its apex. The joints of the antennæ are connected by a slender thread. The thorax is of a pale yellow color; the abdomen throughout of an orange color; the wings are colorless, appearing like thin plates of mica. Their margins are densely ciliated with hairs. The legs are pale yellow; the bazil joint of the tarsi is the shortest of all, its length little exceeding its diameter. All parts of the body are clothed with minute hairs.

The male wheat midge is a rare insect, and differs from the female in one particular point by which it may be easily distinguished. The antennæ are double the length of the body, and twenty-four jointed. The joints are of an exact globular form, and encircled with a row of hairs.

THE SPOTTED WINGED WHEAT MIDGE.

(*Cecidomyia cerealis.* Fitch).

The spotted winged wheat midge is distinguished from the preceding insect by having spotted wings; six spots are commonly found on each wing. The length of this insect is about one-twentieth of an inch, while that of the common clear-winged wheat midge is about one line, or the twelfth part of an inch, although much smaller specimens are not unfrequently met with.

In the *Rural New-Yorker* for June, 1856, Dr. Fitch says, in an admirable communication on the wheat midge;—

"The fact then is, there are two species of this insect devastating our wheat. But as these species are alike, so far as we yet know, in their habits, transformation and external appearance, and can only be distinguished from each other by their wings when in their perfect state, it will be more convenient to designate them collectively as the wheat-midge, and only in cases where technical accuracy and precision is required, is it worth while to discriminate them by the names "spotted winged wheat midge," (*C. cerealis*), and "clear winged wheat midge."

HABITS OF THE WHEAT MIDGE.

In Canada the wheat midge appears during the latter part of June, and remains until the middle of August. It prefers low and sheltered places, being always found in greater abundance in valleys than on hills, under the lee of fences, or the forest rather than the open field. It is most active at sunset, and during the day may be found lurking among the lower leaves of the plant, and especially among the weeds that are suffered to grow in profusion among our crops. At twilight and during the night it is chiefly occupied in depositing its eggs. It does not confine its attacks to wheat but infests the ears of various kinds of grass, such as the couch grass, (*Triticum repens*), the wild bearded oats, (*Avena Festuca*), and other grasses.

The eggs are deposited in the germ of the still undeveloped grain, through its chaff or sheath. When the chaff is far advanced, or very silicious in its nature, the insect cannot puncture it, a fact which is important to bear in mind, and of value as a guide in the selection of varieties of wheat for seed where the fly abounds. The number of eggs deposited in one floret rarely exceeds 10, but it often happens that several insects lay their eggs in the same floret, hence from 10 to 40 larvæ have been counted in the same floret.

"Go into an infested wheat-field in the evening, with a lantern, and you will find a swarm of these flies, everywhere dancing up and down along the heads of the wheat, intently engaged in selecting the kernels, upon which to deposit their eggs. They are all females. The males are very rare, and have never been found, I believe, except by the German naturalist, Meigen, and myself. Having discovered a kernal, the chaff of which is not too old and hard, the fly alights upon it and pierces the chaff with her sting or ovipositor, which is a slender tube resembling a fine hair. This she protrudes from her body, insinuating it through the chaff until its point reaches the germ or young soft kernel. She then leisurely passes her eggs one after another through this tube, thus dropping them upon the surface of the germ or embryo seed. The same fly probably visits several kernals in this manner upon successive evenings, until her whole stock of eggs is disposed of, by which time she, having completed her labors, has become so exhausted that she is often unable to draw her ovipositor from the chaff, and thus dies. These dead flies may frequently be found thus suspended by their tail-like ovipositors, to the outer scale of the chaff."—Asa Fitch, M. D., Rural New-Yorker, 1856.

About a week suffices to hatch the young maggots, and three weeks enables them to attain maturity. They feed upon the juices of the grain, and, as it were, dry it up. When full grown the maggots wriggle in damp weather, or when the stalk is wet with dew or rain, down to the ground, and penetrate about half an inch or an inch below the surface. Here they remain until the following spring, still retaining their maggot state. In the month of May they assume the pupa condition, and preserve it for two or three weeks, when they wriggle themselves to the surface of the ground, break their pupa skin, and assume the form of the midge.

It frequently happens that the maggots are gathered with the grain and

carried into the barn, but instead of remaining soft and pliant, they become stiff and inactive, and their bodies losing a portion of their moisture by evaporation, contract and separate from the thin outer skin, which forms a case in which the little yellow worm is enclosed. It thus reposes in the wheat heads until the grain is threshed and winnowed, when most of these larva are collected with other screenings, and often emptied out among the litter of the barn-yard. Here their bodies imbibe moisture, and swell until they fill the case or skins in which they are inclosed, and the worms crawl or wriggle away to a place of security. (Asa Fitch—Rural New-Yorker, January, 1856.)

IMMENSE NUMBERS, ETC.

We may form some conception of the innumerable multitudes of these insects which accumulate among the screenings of infested wheat, by attempting to estimate the number which are annually swept out of barns in those districts where they abound. Mr. Dawson relates in his 'Contributions towards the improvement of Agriculture,' that a friend informed him that not less than four bushels of larva had been obtained from the wheat of eight acres. After making a large deduction for dust, this quantity must have contained about 150 millions of these insects.

It thus appears that the differences in the habits of individuals hatched and so far matured in the same field are dependent upon atmospherical conditions. Some of the full-grown maggots leave the grain at the close of a shower, or heavy dew, and wriggle down the wet straw to the earth. Others, which are later in arriving at maturity, or in finding suitable weather for making their descent to the earth, are carried during harvest with the grain into the barn, and become subject to the singular condition or state described in paragraph 153.

Some very excellent observations on the habits of this insect have been made by Mr. Principal Dawson, of McGill College, Montreal, of which a record may be found in a work by that gentleman before noticed, entitled "Scientific contributions towards the improvement of Agriculture in Nova Scotia." The following are the observations referred to;

"I procured a quantity of the larva, full-grown, and in that motionless and torpid state in which they usually appear when the grain is ripe. A portion of these larva were placed on the surface of moist soil in a flower-pot. In the course of two days, the greater number of them had descended into the ground, *previously casting their skins, which remained at the surface.* I afterwards ascertained that they had penetrated to the depth of more than an inch, and were of a whitish color, softer and more active than they had previously been. The fact is thus established, that these apparently torpid larvæ, when they fall from the ripe wheat in autumn, or are carelessly swept out from the threshing-floor into the barn-yard, at once resume their activity, and bury themselves in the ground.

"The larva thus buried in the ground were allowed to remain undisturbed during winter and spring, the flower pot being occasionally watered. About the end of June they began to reappear above the surface, in the winged form; the little grubs creeping to the surface, and projecting about half their bodies above it, when the skin of the upper part burst and the full grown winged midge came forth and flew off. This completes the round of changes which each generation of these little creatures undergoes, and we have thus actual evidence of each stage of its progress from the egg to the perfect insect."

Dr. Fitch's observations do not agree in one particular with those of Mr. Dawson. The following extract from the paper, published in the *Rural New-Yorker*, before referred to, explains Dr. Fitch's views;—

"The insect does not moult or cast off its skin from the time it leaves the egg until it enters the pupa state, nor do I think the larva skin forms a case or envelope within which the pupa lies, but that the skin of the larva gradually changes and becomes the skin of the pupa, as it certainly does in our willow gall-fly (*Cecidomyia salicis.* — FITCH). I infer this from the fact that in those instances in which I have reared these flies from the larvæ, the empty pupa skins were the only ones which I found remaining." . . . . . .

"Gather a number of the worms from the wheat at the time of harvest and place them in a pill-box. They all soon cease crawling about, and ere many days become cased larva—the yellow worms being shorter than the semi-transparent pod in which they are inclosed. They may now be kept for months, even in a dry, stove-warmed office, without losing their vitality. Then upon placing them between the folds of a wet cloth, they will next day be found actively crawling about within the cloth, till reaching its outside, they with a skip throw themselves away from it, not one of them leaving a carse or empty skin behind in the cloth."

Mr. D. J. Brown, in the Patent Office Report for 1854, page 74, says, "towards the last of July or beginning of August, the full-grown maggots cease eating, and become sluggish and torpid, *preparatory to shedding their skins*, which takes place in the following manner:—The body of the maggot gradually shrinks in length within its skin, and becomes more flattened and less pointed, as readily may be seen through its delicate transparency. This torpid state lasts only a few days, after which the insect casts its skin, leaving the latter entire, excepting a little rent at one end of it. These empty cases or skins may be *found in great abundance* in the *wheat ears* after the moulting process is completed."

APPARENT PERIODICITY IN THE VISITS OF THE WHEAT MIDGE.

A singular apparent regularity in the periods of its recurrence in vast numbers so as to prove eminently destructive, has been hinted at by Dr. Fitch in 1844. When these instances of periodicity are associated with its late destructive depredations in the United States and Canada, they seem to acquire a peculiar although perhaps speculative interest. Its appearances at different periods are as follows;—

1st. Very prevalent in Scotland in 1740.

2nd. Abundant a few years previous to 1771, or about 25 years after its first appearance, and in the year (1771) eminently destructive.

3rd. After 25 years, or in 1796, it was again observed by Messrs. Kirby and others, in abundance in different districts for three or four years.

4th. After about 25 years more, or in 1825 to 30, it once again became destructive, and appears in America as well as in Europe.

5th. After a fifth epoch of about 25 years, it occasioned in New-York State damage to the extent of $15,000,000 to the wheat crops in 1854, and in Canada West exceeding $2,000,000 in 1856. The season of 1854 was one of unexampled drouth in the State of New-York.

In a letter from Dr. Fitch, to the writer (before referred to) the following reference to this curious subject is made;—

"Though I allude to a seeming regularity in the recurrence of the wheat midge in England, after long intervals, I have no idea there really is any such regularity in the return of this or any other insect. We thought the midge had run its race in this section of country, some years ago, and that the general cultivation of wheat might be resumed. But in 1854 it suddenly reappeared as numerous as it had ever before

been; indicating that it has become a naturalized insect in our midst, ready to multiply whenever those circumstances which favor its increase recur. And all over the western country, this and other wheat insects are introducing themselves, to remain there no doubt, as long as wheat is cultivated there, ever and anon multiplying, and devastating the crops for one or more years, and then diminishing and for a time ceasing to attract notice."

There can be no doubt that certain peculiarities in the season have a marked effect upon the increase of the wheat midge. The year, perhaps, of its greatest ravages, on this continent, 1854, was one of unparalleled drouth, and it has been observed that numerous species of insects appear in incredible numbers during dry and hot summers. The palmer worm, which committed such ravages in the orchards during the summer of 1853, was preceded by remarkably dry and hot weather. The chinch bug in 1839 became excessively numerous in Virginia and the Carolinas, and was preceded by a very dry spring. In 1850 this insect was abundant in Illinois, but during the two following years it was little noticed, "But the three dry summers which have now occurred have increased it prodigiously." Numerous other examples might be quoted to show that hot and dry weather favors in a remarkable degree the excessive multiplication of insects. The green plant louse was excessively common in gardens near Toronto in 1856, during the dry early summer months.

ON THE REMEDIAL MEASURES WHICH HAVE BEEN ADOPTED AND SUGGESTED WITH A VIEW TO LESSEN THE RAVAGES OF THE WHEAT MIDGE.

The remarks under this heading made in the chapter on the Hessian fly may be here repeated; we can employ remedial measures to check the destructive increase and devastations of this insect, but we cannot provide a remedy against its general appearance from time to time, under favorable conditions.

The following plans have been adopted in the United States, and also recommended frequently in Canada. The general result is, as before, attached in a few brief words;—

1. *Smoking the flies when in the act of depositing their eggs*—Not generally practicable, and too much dependent upon wind to be of much utility.

2. *Sowing with lime, or ashes, or gypsum* when the flies are in the act of depositing their eggs. Experience and observation have shown this artifice to be without any effect. Instances have often been cited when it has proved of value, in Ohio, Vermont and Canada. The true reason must have escaped observation. Wheat in blossom strewed with lime will not *deter* the insects from depositing their eggs, as observation has most distinctly shown.

3. *Early sowing.*—In the *absence* of the Hessian fly this article is no doubt valuable with regard to winter wheat.

4th. *Late sowing of Spring Wheat*—of value where rust is not likely to prove equally destructive as the midge. With *good* varieties of wheat this remedy is probably the best that can be suggested. Many instances are recorded of the very successful employment of this simple artifice. In the *Canadian Agriculturist* for September, 1856, the late Mr. John Wade, of Hamilton Gardens, county Northumberland, describes a kind of wheat adapted to late spring sowing, which appears to possess the required qualities.

"The Fife is now as good after being grown seven years as it was at first, without the least sign or vestige of failure in any shape *except* from weevil; and to know that you can be sure of a crop of wheat sown as late as the 10th of June, and to fill and ripen without a speck of rust, and yield 20 to 30 bushels an acre, is surely a consideration."

5th. *Fumigating with sulphur.*—Is

not the remedy, when practicable, as bad as the disease? Sulphurous acid—the result of burning sulphur in air, is a most deadly vegetable poison.

6th. *Fly-proof wheat* (so called). See paragraphs 108-112. The Black Sea wheat has long been a favorite in Canada; it is now fast deteriorating in some of the qualities which commended it some years since; it has become acclimated. Fresh seed would no doubt be in full posession of its most valued properties.

The *Turkish Flint Wheat*, from near Mount Olimpus, in Asia, is a hardy fall variety, and has recently been introduced into the United States through the Patent Office. It has a dark colored chaff, a very heavy beard, and a long, flinty white-colored berry, and is thought by the Commissioner of Patents, likely to prove highly profitable to the farmer and miller, from its superior weight, and the excellence of the flour it produces. It has withstood the severity of an American winter in the Middle States, and "from its long thick beard will probably be protected in a measure from the depredations of insects in the field as well as from heating or moulding in the stalk."—P. O. R. 1855.

7th. *Burning of Orpiment.*—This is a most dangerous recommendation. If it were attempted on a large scale, sufficient to be of practical utility, the destruction of many flies would be very probable, but the poisoning of a manipulator now and then would be absolutely certain. This suggestion has been copied from a "Canada Journal," into a Patent Office Report for 1847.

Sound and practical advice on this subject is given to a correspondent whose wheat was beginning to suffer from "weevil" in the county of Middlesex, by the editor of the *Canadian Agriculturist*, in the Sept. number, (1856) of that journal. The extract is subjoined.

1st, Prepare your land *well*. 2nd, Sow early (*winter wheat*)—for this neighborhood, we should say not later than the second week of September (of course the *absence* of the Hessian fly is here supposed.) 3rd, Select early and hardy varieties of wheat, such as the *Improved White Flint; Kentucky White bearded*, or as it is commonly called, *Hutchinson's; —Blue stem; Soule's, and Hume's White Wheat.* There may be other kinds equally valuable, but the above are the earliest, hardiest, most prolific, and produce the best flour of any with which we are acquainted. Plowing wheat stubble in the fall has been recommended, with much show of reason in its favor, but it is evident that the practice must become general before much good can be expected from it. One large field left unplowed would furnish flies enough in the spring to spread the mischief over the whole neighborhood, or settlement.

There is no variety of wheat entirely exempt from the attacks of insects. The *Mediterranean* is said to be less liable to their attacks than any other, but it is a coarse, red-bearded wheat, and makes inferior flour. It is an early kind, but the grain is as dark as rye, and seldom plump. It is not grown in Upper Canada to any great extent.

It will be well here to draw attention once more to the suggestions of Mr. Hutton, although given at length in paragraph 137.

"One fact is well established, that in *early* situations, on early spots, where the seed was sown early, there was no weevil (wheat midge). In low, damp, late situations, and where late sown, it has been extremely destructive. This important fact ought to be well remembered by our neighbors west of us, where they will have it undoubtedly in a very short time, and exertions ought to be used by them to sow early, and early kinds of seeds, to drain the land well, and make small ridges, and otherwise expedite the growth as much as possible. The early sowed Soule wheat escaped

last year in many instances, in the very center of the weevil's destructive ravages."—Prize Report, county of Hastings, by W. Hutton, Esq., 1852.

With reference to change of seed of the same variety it should be borne in mind that it is advisable to obtain the fresh seed from a soil and climate better and earlier than those of the locality in which it is sown. In America, where our winters are so prolonged that vegetation in the summer months progresses as in a hothouse, it seems very probable that seed obtained from the north would ripen earlier for a year or two in southern districts, than acclimated varieties.

The remedial measure which appears to be immediately suggested by a study of the habits of the wheat midge, is of the simplest description, and everywhere practicable. It will be seen from paragraphs 152 and 156, that the maggot of the midge, previous to assuming its larva condition, buries itself an inch or a little more below the surface of the ground. That when the time arrives for their assuming the fly state, they *wriggle* themselves to the surface for that purpose. It is only by a series of alternate contractions and expansions of one side and the other that they can make their way up from an inch below the surface to the light and air, for they possess no feet or other exposed members when in the pupa case. If, therefore the pupa be buried, say six inches below the surface, it is *permanently imprisoned*, for nature has not provided any apparatus to enable it to effect its escape under such circumstances. If, therefore, at any time between August and May of the following year the ground be plowed to a depth of at least six inches, and in such a way that the furrow slices lie as compactly as possible, there can be no doubt that a vast majority of the pupa will perish from inability to escape from their imprisonment.

But how much greater will be the probability of every individual pupa perishing if the ground be plowed seven inches deep after the harvest, and left untouched until the following August? Every one knows that it is not possible, in plowing, to turn a sod or furrow slice completely over, so that all parts shall be altogether reversed. The furrow slices may be made to lie with great compactness, but there will be interstitial spaces into which the pupa may fall or wriggle themselves, and eventually escape. When the field is plowed immediately after harvest, not only will the autumnal rains fill the spaces beneath and between the furrow slices by washing down fine particles of earth, but the influence of the many months of winter and spring will consolidate the furrow slices, and their compactness may be ensured by rolling in May or the early part of June, before the fly appears.

Rolling the land immediately after plowing is accomplished, will give further security to the prison in which the pupa are inclosed by this simple artifice.

We may now consider the feasibility and adaptation of this artifice of *after harvest plowing* and *rolling*, to those sections of Canada where the fly has not yet appeared. The country about Lake Simcoe has not yet apparently suffered from the depredations of this insect, and we know that the districts between London and the Detroit River are now only threatened at their borders with the invasion of the wheat midge. The question proposed is, what ought the farmers of these favored districts to do in order to avoid the slow but sure progress of the devastator?

Every one will say, first banish the idea from your minds that you are safe from an invasion; let the experience of half a continent foreshadow the contingencies of a few townships. Acknowledging then, the necessity of preparing for the invasion, what is to be done? The answer depends upon the presence or absence of another insect. 1st. Are you liable to the attacks of the Hessian fly?

No; then sow early, &c., &c., Yes; then sow late; prepare your seeds with steeps, choose *earliest* varieties, and have your land in good order. Watch the progress of the midge, but do not depend upon that; plow as soon after harvest as possible, and let the field remain untouched, except by the roller, until after harvest the succeeding year. Whatever invaders may have appeared unobserved, (and milllions will have so done, sooner or later), will be buried beyond their powers of restoring themselves to light and air.

ITS PARASITES.

These are not well known in this country. Several have been recognized in Europe, and described by distinguished entymologists. One American species, found by Dr. Fitch, is a hymenopter of the family Chalcididæ. It is probable that the wheat midge, like the Hessian fly, has several parasites, which increase with it until they finally overcome it, and for a time arrest the destructive ravages of this terrible devastator.

In Europe nature herself has provided a considerable check to the multiplication of these flies, by making them the prey of no fewer than three kinds of ichneumons, viz.: *Encyrtus inserens*, about half the length of the wheat fly; another, *Platigaster tipulæ*, which commits its eggs to the larva of the wheat fly; and the third, *Erytoma penetrans*. Some of these ichneumons appear in great numbers where the fly abounds, and multitudes must become their victims.—*Quarterly Journal of Agriculture, vol.* 12.

A very full description of these ichneumons, taken from Mr. Curtis' celebrated works and papers, is given in the February (1857) number of the "*Canadian Naturalist and Geologist*," by E. Billings, Montreal.

Many birds prey upon the maggots. Mr. Elner Rowell, of Athens County, Ohio, has a colony of swallows amounting to one hundred individuals, which he thinks secure him from the ravages of the midge. It is probable, however, that the most destructive to the midge maggot among the feathered tribes is the beautiful little yellow bird. (Fringilli Tristis.—Lin).

In Madison County, New-York, during the prevalence of the wheat midge, in the years 1838 and '52, flocks of yellow birds were seen busily employed in the wheat fields, much to the *alarm* of the farmers, who, observing these active and beautiful little creatures picking the heads of wheat to pieces, imagined that they were destroying the crop, and hence resorted to various means to kill them, and drive them away. The same warfare has been frequently noticed elsewhere, and should at all times be discouraged to the utmost by all who desire to cherish the most interesting, beautiful and useful class of insect destroyers the world contains. Birds, and especially the insectiverous birds, ought to be encouraged in every way on this continent. Facilities so unusual have been furnished by man for the increase of certain destructive insect tribes, and no corresponding effort made to maintain a check upon their excessive multiplication, that we have permitted a host of enemies to obtain a firm footing in our midst, which are at all times liable to paralyze our industry in the most alarming and grievous manner.

MOWING MACHINES.

ED. FARMERS' MAGAZINE:—In your Magazine for this month, on page 520, I promised to give you my impressions of such *Mowing Machines* as I have seen operating in the field the present season, viz., *Heath's*, *Ketchum's*, *Manny's*, *Allen's*, *Russell's* and *Danforth's*.

Heath's, or the Eagle Mower, first obtained attention, because of the favor with which it was received two years since, when the State premium of $1000 was awarded it. You will remember that it failed to go alone at the Grand

Exhibition at Syracuse, and I believe it has never fully recovered from the shock it then received, notwithstanding it has been under the care of the best of *Nourses* ever since. It is not easy to specify any defect in its structure, but still it does not work uniformly well.

Ketchum's is a good implement, but not so good as some others. It is clumsy, and does not move easy, comparatively. Some who procured it three years since, continue to use it because they have it; but no one hereabouts, to my knowledge, has purchased *a new Ketchum* the present season.

Manny's is a favorite machine with some, and there are those, experienced workmen too, who speak of it as equal to any other. It is human nature to have a partiality for old acquaintance. I have seen first-rate work done by Manny's machine.

Allen's is the favorite mower among the farmers of this neighborhood; and, so far as I can discover, is richly entitled to this preference. It works easy, is not liable to get out of repair, and does its work thoroughly. Some valuable additions have been made to it the present season. The same may be said of most other mowers. So there is no reason to believe that perfection in structure is yet attained in any of them.

Russell's machine works quite well, and by some is thought equal to any other; but still, want of perseverance in its proprietors, or some other cause, has thus far failed to bring it into general use.

Danforth's, as improved by an artist of Greenfield, is well esteemed by those who have tried it. But it is thought better fitted to the even prairies of the West than the uneven knolls of New-England. I have seen it worked side by side with Allen's, and it was not easy to discriminate which did the best. When the crop was cleared, the advantage was in favor of Allen's.

On the whole, as at present advised, my opinion is in favor of Allen's. Mowers have come much into use with us, the past season, and I have no doubt their use will continue to increase as their value is better understood, wherever the fields are of sufficient extent to warrant their purchase.

Very truly yours,

J. W. Proctor.

Sept. 7th, 1858.

Remarks.—Mr. P. states to us in a private note, that if we have doubts of the propriety of what he has said, he wishes us not to publish, but says he has told us honestly his impressions, after much examination; of all which we have not the least doubt. The above opinions, therefore, we regard, and we think our readers may, as the unbiased opinions of an individual well-informed on the subject, and desirous of arriving at the truth.

Had we been compelled to speak on a subject of so much delicacy, where large investments are made, and where, though many may have done well, but one can have done best, we should have put Allen's just about where he has, Manny's a little higher in the scale, and of the rest should have said that our knowledge of their relative value is not sufficient to enable us to speak with great confidence.—Ed.

In a trip among the farmers of Hampshire County Mass., since the above was written, we found Allen's mower almost a universal favorite, but that some prefer the Buckeye machine.—Ed.

PERFECTION OF SORGHUM.

In proof that cane which produces ripe seed loses its sweetness and juice, and becomes dry and pithy, I would simply say that I made it my particular business, while my cane was growing, to determine its peculiarities, so far as I could, that I might know how to cultivate it profitably. I cut stalks every

few days, after it tasseled out, until dead ripe, and found that before the seed was full in the milk, the juice had a greenish, unpleasant taste, and the inner portion of the stalk was about as sweet as sugar candy, and the stalk perfect. When the seed began to turn dark on the tip of the heads, I found a small hollow forming in the center of the stalk next to the head, and as the seed ripened this extended down the stalk from one-half to two-thirds its entire length, and the stalk had a pithy appearance. The juice about this hollow became flat and insipid, and tasted very much like the last run of maple sap, after the buds have started. The lower joints of this same stalk usually remain sound and very sweet, while the upper portion, as the seed ripened, became nearly dry, and very much resembled the inside of a ripe corn-stalk. From these observations I came to the conclusion that when the seed is fully formed and about to turn dark, then the stalk is at the highest state of perfection for use, and will make either sugar or syrup, as you desire—that after the seed ripens it becomes unfit for syrup or sugar.—S. E. CHAPMAN, *in Rep. Intelligencer, St. Charles, Iowa.*

BENEFITS OF GOOD BLOOD.

I YESTERDAY saw a young horse, reared by W. H. Harrington, of Salem, Mass., that stood 14 hands high, at the age of 2 years, weighed 900 lbs., dark red color, compactly built, perfect symmetry of form, moving with speed equal to any of his age. He is now 28 months old. This animal was sired by *Ethan Allen*, from a mare that descended from *Black Hawk*. At Springfield he was viewed by all with admiration, and obtained the first premium for animals of his class. Most animals of his age can be purchased for $100, but this will readily command ten times this amount, and then be thought a good bargain. Whence came this superiority? We think from *the blood* of those that bore him.

If this be true of horses, why not of other animals? If then, it is a law of nature, that the quality of animals essentially depends on the character of those from which they derive their origin, how important is it, that none but first-rate animals be kept for this purpose?

I have watched the advance of this young animal, the last year, with much interest He has been attended with care, but not pampered, and is indeed a very fine animal. J. W. P

Sept. 20, 1858.

THE TREADWELL FARM, ESSEX CO., MASS.

ED. FARMERS' MAGAZINE:—The farmers of Essex are under great obligations for your valuable suggestions as to the management of this institution. At their recent annual meeting, they adopted a contract, made with Mr. Brown, the occupant, for a term of *twenty years*, under the supervision of a committee of the Society, the entire income to be used in bettering the estate. The prominent features of this contract, sketched by their late President, is, that the farm shall sustain itself;—for what is the value of a farm that will not do this? They will be pleased to continue to advise you of its progress, and to receive further suggestions.

October, 1858. J. W. P.

MR. EDITOR:—At the late show in Danvers, the most complete ever witnessed in the county, was exhibited a herd of milk cows, 24 in number, from the Burley farm (so called) owned by the heirs of the late Wm. Burley, Esq. It was shown that these cows have yielded since the first of May, nine quarts of milk per day, on the average, on pasture feed only. This fact is mentioned, as showing what the *old red stock* of New-England will do, in the ordinary way.

There were in the pens 100 Jerseys, and crosses of the Jerseys, of the best character that could be gathered from the yards of amateurs of fine stock. But I do not hesitate to say, that the profit accruing from this herd of natives, for a year to come, will be greater than can be realized from the same number of animals, selected from all the others presented; notwithstanding their first cost was much more, and their keeping also more.

This show demonstrated the popular feeling to be in favor of such exhibitions. The income derived from the admission fee of ten cents, paid by those who visited the halls, fully balanced the premiums awarded, and the expenses incident to the exhibition. I know of no way of gratifying the people more rational than this. At their dinner, they were favored with the presence of the Hon. Edward Everett, who spoke for half an hour, with a power of eloquence, that no other man could have commanded.

Truly yours, P.

Essex Co., Mass., Oct. 1, 1858.

And so, according to the observation of our correspondent, the old reds of New-England and the adjoining States are the best milkers. We have not one doubt, that for dairy purposes, they are equal to any others. But if any others make beef more readily, and in larger quantity for the same feed, when dried, that is a consideration that comes in even with the dairyman, for the value of the bodies after the milking days are over, as well as that of the males in his herd, is among the important results of his business. A Vermont farmer recently declared that since he has dismissed the old stock, and gone wholly into Durhams, imported and bred by Paoli Lathorp, Esq., of South Hadley, he makes just twice the amount of beef he did formerly, and for no other reason, so far as known to him, except from the change of stock. Whether this can be so, others must judge. We have been inclined to believe that English dairymen think too much of the beef-making capabilities of their cows, and American dairymen possibly not enough.—Ed.

AGRICULTURAL EDUCATION.

We have long desired that schools for instruction in agriculture, not so numerous as to interfere with each other, but perhaps one in each State, should be established among us, and so endowed, that the sons of farmers could be taught gratuitously, or at but a moderate charge; and yet we have not been without some fear that, if established, they would lack those practical characteristics, on which their usefulness would much depend.

The following extracts from a letter of Gov. Wright, of Indiana, from Hohenheim, Germany, the seat of a famous Agricultural school, to the *Ohio Farmer*, we think will throw some light on what such schools might effect, and afford important indications for their right management, as also on other subjects of interest to the farmers of this country;—

"The theoretical department of the school, is perhaps the finest in the world. Everything is experimentally demonstrated, and no result is officially announced until careful and repeated experiments have determined its soundness. In connection with studies immediately relating to agriculture, the pupils are instructed in mathematics, mechanics, minerology, geology, botany, chemistry, political economy, &c.

"In all the departments of the school, theory and practice go hand in hand. The students not only learn the *how*, but the *why* of every operation connected with agriculture. For example, while learning the practical management of the horse, they must study his whole anatomy, as thoroughly as medical students study the anatomy of the human frame. The professors illustrate their lectures from skeletons, stuffed specimens, and

the most perfect artificial models that can be procured.

"Cheese-making.—My introduction to this celebrated institution was the hearing of a lecture by Professor Rau, on the manufacture of cheese. I have just remarked, that theory and practice in this school go hand in hand; and here was a good illustration of the principle. Sixty gallons of milk were placed upon the fire when the lecture began, and the whole process of cheese making was theoretically explained and practically developed. Fifteen young gentlemen, one of them, if I mistake not, the son of a Prince, listened for more than an hour to the Professor's interesting exposition, The lecture was enlivened by pleasant remarks growing out of the subject, and in the course of it, the Professor took occasion to combat the idea that English grass, English air, or English fogs, combined or severally, are essential to the manufacture of good cheese. He insisted that good milk and a right understanding and application of the best methods, are the only essential conditions in the making, though age is necessary to bring out the finest flavor. If well made and properly cared for, he remarked cheese will keep good for half a century. It was formerly the custom in parts of Germany, to commemorate the birth of a child by the manufacture of an immense cheese, which was then buried, and kept to be eaten only when the son or daughter to which it belonged should be married.

"Silk Rooms.—From the lecture-room I passed, under the guidance of Professor Rau, to the silk rooms, kept solely for experiments, as the silk worm does not thrive in this climate. Thence I went to the cabinet, where models and specimens of farming implements, of almost every age and description, are to be found. I saw a very curious series of plow-models, from the rudest wooden machines of old Roman times to the latest improved pattern of Starbuck & Son, of New-York. The collection would remind you of the Patent Office in Washington.

"The Farm.—After passing hurriedly through various collections of stuffed specimens of foreign and domestic animals, of different kinds of wood, of curious fabrications, I took a rapid survey of the experimental fields, where all manner of agricultural problems are attempted:—such as the effect of this or that soil upon every kind of grain, the effect of different and successive crops upon the same soil, the method of culture best adapted to each several crop, and so on to the end of the list. I cannot undertake, within the limits of a single letter, to enumerate all the different crops which I saw growing side by side in these fields. There was Turkish tobacco, Maryland tobacco, Indian corn, many kinds of grain peculiar to our country, either in separate lots or intermixed. These fields are subject to the most careful attention. Every circumstance of growth, success, or failure, is noted with great precision and caution. Only after three, four, or even five experiments, when there seems to be no room for uncertainty or probability of mistake, do the directors of the school allow the results of their labors to go forth to the world. Any change from old well established usage, is regarded with suspicion. Not a fast people, moving slowly, quietly and firmly, the Germans dislike the hazard of frequent experiments. Most of their farms are so small that the loss of any part of his crop would be a matter of serious importance to a German agriculturist. Hence no results are communicated to the people from the model farm, to which all classes look up, until their perfect utility can be practically demonstrated.

"Milch Cows.—In the spacious stables connected with the schools are kept forty milch cows. The management of them is peculiar. They are never let out, even to water, but stand the year

round in their roomy, airy stalls, where they are regularly and systematically fed and tended. I was assured that by many experiments it had been ascertained that the best food for milch cows during the summer and part of autumn, consisted of cut oats, peas and vetch, raised together and given to them green, as we feed blue grass and clover. Some of these cattle were the most noble specimens of their species I have ever seen."

[The Hohenheim plan of keeping their cows constantly stalled—a course already adopted by many in England, and advocated by some in this country—may be well as regards the dairy products. On that point we will only say, we would prefer the milk of cows that range a wide pasture, drink from the purling spring, just when their appetite craves, have salt always at their option, enjoy sun and shade at pleasure, and always have a comfortable retreat from storm and cold; and quite sure are we that such a course is far more favorable to the progeny. The race in the former case would be pretty sure to degenerate, in the latter to improve. Breeding cattle should be at large, should have exercise, and should be well kept, but not pampered. Muscular energy, not obesity, is what is wanted, that health and hardiness may be communicated to the offspring. If the bull be worked moderately in the yoke, no matter. Everybody approves of working brood-mares, provided they are treated kindly. We are by no means sure that the same would not hold with regard to breeding cows. At any rate it is quite certain that the shutting-up system, either as regards the males or females, is not the best way to improve a stock.—Ed.]

"Sheep.—One thousand sheep are kept upon the farm, principally for their wool. By many careful and minute experiments and calculations in regard to feed, it has been ascertained that the profit realized upon every hundred pounds of hay fed to sheep, is thirty kreutzers, (about twenty cents of our money,) while upon a like amount fed to cattle, the profit is only twenty-four kreutzers, (about sixteen cents;) demonstrating a profit of about twenty per cent in favor of sheep, as compared with cattle.

"Is it not a strange fact that our people do not devote more attention to the raising of sheep? By the last census it appears that the number of sheep in our State is less than a million; and if I remember right, one-half of the entire value of the live stock of Indiana, according to the census of 1850, at that time consisted of the value of hogs. But if, in this country, sheep are more profitable than cattle, how would it be with us, where land is cheap, and where our well-fenced pasture grounds would enable us to dispense with the services of shepherds? It has been well said of the sheep, that he never dies insolvent; his fleece will always pay his cost; his manure is better than that of other animals; he destroys briars and thorns, and in every respect exerts a good influence on the character of vegetation. Wherever he runs, wild grass disappears, and his sure productiveness will always make him a source of profit. With our immense possessions, an extent of territory a hundred times larger than Great Britain, more than sixteen times as large as France, larger, by more than twelve times, than all Germany; and with such a large proportion of this territory well adapted to sheep-grazing, is it not most absurd and wicked that we should continue to import wool to the amount of millions of dollars from those countries, instead of raising it within our own borders?

"Manures.—Great attention is given at Hohenheim, and indeed throughout Germany, to the preservation of the manure and offal of the country. On the "Rothchild farm," an estate of about 1300 acres, near Frankfort-on-the-Main,

one-fourth of which is in grass lands, I found that about 1200 gulden are expended yearly for city offal, which every night is hauled out in large hogsheads. The Batman farm of 500 acres, also near Frankfort, pays a large sum for the blood from the slaughter-houses, and in addition, is annually enriched with 300 loads of manure. Here it may be stated that Napoleon has laid out twelve additional farms about his military camp at Chalons, in order to turn the stable manure and offal of the horses to the best practical account.

"In this country, as everywhere else, the great problem for the agriculturist is this: How to obtain the best manure at such prices and in such quantities, that the poorest land may be made profitably productive? In some districts of Germany, however, the soil is so peculiar that even manure will not combine with it, without the co-operation of other agents. Thus the common *lupine*, which grows luxuriantly in many parts of our country, will not only flourish upon sandy plains, where even thistles would die, but impart to, or develop in the soil a property which enables it to receive nutriment from manure, and thus be prepared to support potatoes, grain, and other crops. It has been discovered also that forest trees have the fertilizing property; and accordingly, whole districts may be seen in Germany covered with a low growth of pine, chestnut, or oak, where in a few years the golden harvests will wave and ripen in the sun.

"Preservation of Forests.—From the manner in which the Germans preserve and improve their forests, our countrymen might take a valuable lesson. At Hohenheim this forms one of the most important departments of study. The pupils are instructed in the best methods of preserving, propagating and improving their forest trees, while at the same time a proper estimation of the pecuniary and moral value of these noble productions of nature is instilled into their minds, which must eventually become the common sentiment. Our people must give attention to this subject, sooner or later, and every day's neglect of this practical science, will entail evils upon us, for which years of labor will hardly make amends. We do not, as a people, appreciate the value of our forests. Negligently, carelessly, and wantonly, we are destroying them on every side, not considering that in them lies a mine of untold wealth; for the time comes, with every people, when they can turn their own natural productions to the most advantageous use for themselves, and this law applies as firmly to trees as to the coals and various mineral ores. Yet what destruction of the best and most valuable timber, have you and I witnessed during the past forty years in Indiana! A statistical statement of the pecuniary loss would astonish the reader; to say nothing of the loss of health and domestic comfort. The connection of family health, enjoyment and comfort, with a grove of primeval forest trees about the homestead, never entered the practical heads of our fathers; and their sons, true to the example before them, pursue the same suicidal course. Down come the lofty oaks and the beautiful maples, leaving the homestead to parch, and the spring to dry up in the scorching rays of the sun. If there are exceptions here and there, you will find the value of the farm increased a thousand fold, simply because the trees have been let alone; but what if they were cultivated with the proper care? All along the line of the railway in Southern Germany, I saw acres and acres of forest trees, from ten to fifteen and perhaps twenty years old, planted in rows as regularly as corn is with us, and all cultivated in the most scientific manner. When will our people learn wisdom in this matter? will they heed the warning of the old world, listen to the admonitions and counsels of science,

and be prudent in good time, or will they wait to learn it, too late, from their own experience? We certainly, who boast so freely, and with good reason, of our practical foresight, should take shame to ourselves to be surpassed in this important matter by the Germans.

"Fruit Trees on the Roadside.—Writing of trees reminds me of another peculiarity of this country, from which *Young America* might learn an important lesson. Along the public roads, for hundreds of miles, are rows of fruit trees, unprotected by ditch, hedge, or fence; yet the ripe fruit may hang in profusion on their boughs, or cover the very roadside, and not an apple or pear will be purloined, not a cherry twig will be broken. Frequently some poor man buys the fruit of one or more trees for a season. All he must do to have it sacredly respected is to bind a withe of straw about the trunk, in token of ownership. This may remind you of an amusing incident connected with some cherry grafts in the Governor's garden.

"Native Trees.—To return to forest trees. In some portions of Germany I have seen efforts made to introduce foreign trees and shrubs, with a view to the improvement of the scenery. You have witnessed the same thing in America. Generally these efforts have ended in failure. The operation is too expensive and precarious, and questionable as a matter of taste. Many a large mansion, around which native groves would flourish, is surrounded by ill-looking, half-preserved foreign growths, to which the climate and soil are alike injurious, and which give an air of decay and meanness to the whole. Let our people not attempt to ape the bad usages of other nations. Rather than waste time and money in the importation of unsuitable foreign trees for the decoration of our grounds, let us improve our own forests, fields, meadows and pastures. With tastes cultivated by study and directed by experience, we shall find within our own borders all the materials wherewith to enrich, adorn, and beautify our *homes*. There is nothing that dignifies, beautifies, and adds to the comforts of a country residence, so much as the tasteful preservation of the primitive forest around the family mansion.

"We should look to the preservation and improvement of our timber lands, as a question of high pecuniary interest. Every nation has its own distinguishing branch of industry, trade, or manufacture. England has her own, France another, Switzerland still another. Let us remember that it is our province to exhibit the results of a bold and peaceful industry, the true wealth of the nation. In the workshop, in our gigantic steamers, in our houses and furniture, in all kinds of machinery, lie one of the great sources of our national prosperity. For these we are, and ever must be dependent upon the preservation and improvement of our forests; and we should all exclaim with one voice:

'Woodman, spare that tree!'

"But to return to Hohenheim—the high home! It is now a University, the oldest and most distinguished of its class in Europe, and is under the direct patronage of the King of Wurtemburg, who takes an active personal interest in its success. At this Institution a young man can live comfortably, and enjoy all its advantages, at an annual expense not exceeding four hundred American dollars. Connected with the school is an admirable agricultural journal.

"With schools and universities in our own country of perhaps equal merit, Hohenheim has many claims upon our attention, not only for its renown, but for the comparison of the systems of agriculture which prevail in the old world and the new. We should prove all things and hold fast what is good. Discarding both old prejudices and new ones, we should make every year count as one more step forward in the march of agricultural improvement. Would that I

could induce some of our young men, who waste too much of their time in Europe in mere pleasures and profitless sight-seeing, to devote a few months and years to the noble studies pursued at the *high home!* In this way they might do good service to the agricultural interests of our country, something towards investing practical labor with scientific interest. Nor is this all. It is written, man shall not live by bread alone. It is not enough that we have plenty to eat and drink, fine clothing, comfortable houses, and productive farms. Every man owes it to himself, his family, his country, to cultivate all those qualities of mind and heart which delight in beautiful objects, which are susceptible of moral and religious growth. And as *home* is the cradle of all virtues, and as external adornments, especially those natural ones which lie within the reach of every citizen of our favored land, such as trees, shrubs, flowers, tasteful lawns, arbors, and trellises, are among the strongest means of making home attractive, it should be the desire and the labor of all good men to diffuse throughout the community a sentiment of regard for rural works and pastimes. To do this lies within the power of no one man or woman; all should make it their object, and he who labors most will have the satisfaction of knowing that he has faithfully done his part towards accomplishing the great work of the age.

"Man must work, he must labor. But he may work willingly, or as a machine; he may work cheerfully, or as a slave. Labor, undirected by knowledge of the great principles which govern the development of the soil, is always slavish. Is there the grand design of agricultural schools, to lead the tiller of the soil to take an intelligent interest in all the wonderful processes of nature which continually pass before his eyes, in order that, with his powers of observation thus quickened, all the better faculties of his mind aroused and exercised, he may make every hour of labor attractive, and add new grace, refinement and happiness to his *home?*

"The nation must look for true wisdom and strength to the education which controls and shapes the *home* policy of the family circle. Let us then define patriotism, *true patriotism*, to consist in *love of home*. There can be no love of country where there is no love of home; and on the contrary, show me a man who loves to adorn his home with those peaceful and refined charms which God designed it should possess, and I can show you a good citizen, an honest patriot, and a true man."

EXPERIMENTS WITH PLASTER.

Ed. Farmers' Magazine:—Will you accept a word from an unlettered laborer, whose lot was cast at the tail of the plow, and who saw no way for himself but to take hold and follow on?

Such seemed to be the fortune allotted to me. I found myself upon a New-England farm of medium quality—many better, many worse—with ample acres, many of which, by the plow and pasturage, were exhausted to their lowest ebb. A portion had been kept up at the expense of the rest. I cleared more land upon a diluvial plain, which, according to the fashion of the day, was soon exhausted. I felled the forest upon a stony hill-side, and converted it into pasturage. That, too, was exhausted about as rapidly as that plowed upon the plain. I cast about to see what should be done; for what is a New-England farm without pasture? My stock were turned out in spring upon an ample range of acres, but they returned in autumn lean, unfit for the market. My flock returned to the barn to be nursed through the winter, or to be food for crows before spring. My cheese and my butter were as lean as the pasture from which they were drawn.

I complained to a neighbor, a dealer

in plaster of Paris, of my poor prospects. My pastures had become exhausted, and my stock poor. He said to me, "Have you tried plaster upon your pasture? that sometimes has a good effect." I said, no. He said, "Take half a ton, sow it on your exhausted pasture, a hundred pounds to the acre, and if it does no good, I give it to you; but if it pays for itself, you shall pay me for it." That is generous, said I; I will take it, not at your risk, but at my own. I took the plaster, and sowed it as directed, one half of it on exhausted pasture, resting on granite, unstratified, abounding in fragments, falling to pieces by disintegration, giving off the smell of sulphur and an acid taste. It was lost; it did no visible good. When tried again, and watched closely, no effect could be seen. The other quarter ton I sowed upon a rocky spar of the Toby Mountain, of which Metewampe is the crown.

The soil rests on conglomerate rocks, seemingly made up of sand, gravel, pebble-stones, large boulders, slates, and fragments of every species of primary rocks, cemented together, and as enduring as granite. The pasture sown was not badly exhausted, but was naturally poor. It was soon metamorphosed, and became clothed with white clover. It showed unmistakable evidence of the good effects of the plaster, till the drouth of the next season obliterated the verdure from the whole country. Encouraged by this experiment, I ventured upon a larger scale, sowing a wide breadth of the most exhausted pasturage, that I knew had been extremely poor more than sixty years. I sowed it in October, aiming to give one hundred pounds to the acre. I waited for the result; no effect was visible the next season, nor till late the second, but the third showed me a new pasture, clothed with rich feed, consisting mostly of white clover and red top, with some red clover. The fourth I gave a new dressing, as at first, and found feed ample and to spare, early and late, through the season. The fifth season I gave a third dressing to a lot of ten acres, and held it in reserve for a dry time, but the dry time not coming that year, I gathered eleven one-horse wagon loads of hay. I had ample feed for my stock. The sixth year I gave a dressing to the less home lot, a hundred and a quarter to the acre, and gathered seventeen two-horse loads of the best of hay. A small amount of the residue of the pasture has received a third and fourth dressing. I have ample pasturage, and to spare. Such has been the change, I turn my stock to pasture early in spring, where they remain till late in autumn, and are in good condition for market; and my butter now goes through the market to the tables of the rich.

And whence comes this change? Where did the elements of fertility reside before the plaster was sown? In the plaster? or in the rocky atoms of the soil? or in both? Was it brought out by chemical action, carried on in silence, by which new compounds were evolved, not before existing in either? for assuredly plaster is not made up of lazy materials, however neutral it appears, when its elements are balanced or neutralized by each other. It is not likely that plaster remains plaster long after it is mingled with the soil, which we may well suppose is compounded of the material of rocks of every name and chemical power.

It is for the farmer to try experiments with plaster, but it is not his province to determine its chemical power; that belongs to the chemist. If one compound rock, as plaster, can cause fertility from one kind of soil, why may not another, as feldspar or hornblend, produce a like effect on another soil? As yet the chemist and the man of science have done almost nothing for the farmer, but what have they not done for philosophy and the arts? They have

almost metamorphosed the world. What has the study of electricity done for the world since Dr. Franklin received the first kiss upon the knuckle from his kite-string, short of a hundred years ago? And the great question has been answered within a little time past, that has lain before the world since the time of the sage of Idumia, who said, as if by the voice of God himself, to those that assumed to know everything, "Canst thou send the lightnings, that they may go and say here we are?" The electrician is now answered as by echo from the four winds of heaven, "here we are, here we are," and as if to crown the whole, the sound comes up from beneath the waves and icebergs of the Atlantic ocean, "here we are."

Shall the man of science after calculating or revealing the mystery of astronomy and the arts, bridling and saddling the lightning, and setting the post-boy thereon, say to the farmer we can do nothing for you? My belief is that all the elements of fertility exist in the mountain rocks; take for instance the experiment that I have been trying, which is nothing more nor less than sowing the dust of one rock upon a soil which is the dust or atoms of many other rocks, and two blades of grass have been made to grow, where but one grew before. If the chemist can bend his study to the help of agriculture, then the farmer calls aloud to the professors of the great Smithsonian Institute at Washington, which was founded for the advancement of science, and the diffusion of useful knowledge among men; for what science or knowledge can be more useful than to enable the husbandman to make two blades of grass, or two ears of wheat, grow where but one has hitherto grown. It would be to enable the farmer, acting through the agencies of nature, to transmute the mountain rocks into wheaten loaves. FARMER OF METEWAMPE.

Remarks.—We suppose that sulphuric acid was wanted for this farmer's soil. The lime, contained in the plaster, may have aided the effect. But the sulphuric acid was the great want. To procure this from the manufacturer, to transport and apply it, would have cost three cents a pound at least, or sixty dollars a ton. In the form of plaster the sulphuric was comparatively cheap, costing not more than half a cent the pound, and was more convenient in that form than any other to spread evenly on the ground.

Without going into speculations that might be uninteresting to most of our readers;—we suppose that the effect of the plaster was to dissolve the silicates, the sulphuric acid forming soluble sulphates with their bases, thus furnishing alkaline salts, in a state to be appropriated by plants. The food for clover was mostly in the soil before, but not in a state to be taken up.

On the piece of land, where the plaster failed to produce a good effect, there was iron combined with sulphuric acid, rendering the soil sour, so far as we can judge by the description of the crumbling rock. Too much sulphuric acid did not require more. Lime, on that pasture might have produced as good effects, as plaster on the others.

We value our correspondent's statements very much for their reliability. Some writers love to make a good story, but we know this one well, and we are sure he has told the exact truth.

In one case no effect was seen for two years. The subsequent effect was great. We have known other cases like this; and the inference is, not to decide against the use of plaster too soon.

A great many have condemned its use on pasture lands prematurely, and then made up their minds so strongly as to shut out the light.—ED.

CULTURE OF INDIAN CORN.

AT the late meeting of farmers of the Empire State, as reported in the *Country Gentleman* of Oct. 14, there is a

singular uniformity of testimony in favor of *shallow plowing* for the growing of good crops of corn. One gentleman by the name of Brewer said he got better crops when he plowed only four inches deep, than when he plowed deeper. If this be true, then there is much labor lost in the ordinary mode of culture, for so far as I have observed, farmers generally think it best to stir the earth from six to nine inches deep, provided proper fertilizers are applied, and without their application profitable culture may not be looked for. This is a question of great practical importance, on which I should like to know your opinions, Mr. Editor. P.

Oct. 16, 1858.

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Remarks.—Our opinions on this subject are patent. We have been called an old fogy by certain men, who never hardened their hands at the plow-tail, who are in no danger of being dubbed plow-joggers, clod-hoppers, or heavy-heels, and who know nothing how the sturdy ox pants in the last days of April before an unreasonably deep furrow, because we would not inconsiderately cry out for plowing 20 or 30 inches deep for all crops, on all lands, and with all degrees of manuring.

On the other hand, some very sensible farmers have thought we were rather too fast when we have recommended mellowing the ground as much as ten inches, provided you mean to manure well, but less, if you do not. Well, neither the sober views of the rational farmer, nor the *hifallutin* advice of coxcomb teachers, who know little of what they undertake to teach, but who teach first with a view to learn afterwards, instead of first learning what they are to teach, has ever frightened us in the least, or ever will. Our mind was long ago made up in favor of deep plowing.

It prevents all damages from drouth; it affords a wide range for roots; if the land is underdrained either *by nature* or by the art of man, and treated liberally to manure, it will not be cold in consequence of depth, but will produce more of all crops in the routine of ordinary farming than by shallow plowing.

This is our opinion, made up from practice, from observation, and from the testimony of farmers themselves, not your fancy farmers, who spend a fortune instead of making a living, nor farmers, who have worked hard and grown poor all their lives, nor yet those who talk more as suits the company than as truth demands, but sensible, candid farmers, who have been successful, and whose testimony therefore is worth the hearing. Our experience, our reasoning, and above all the testimony of sound, practical farmers, have brought us to this opinion, hold us to it, and we believe will hold us to it. But when we speak of deep plowing, we do not mean away down among the celestials, or other antipodes, who might be "after pulling" the long carrots through by the small end, but a reasonable depth, say ten inches for good land that you mean to enrich and cultivate well, but less if you are determined to starve it and so set it an example for starving you.

The fathers would have said that they plowed five or six inches deep. Their wretched old plows with a wood mold-board failed to stir the soil to an average depth of three inches. These New-York farmers, that our correspondent speaks of, plow four inches! There is no such thing. Their excellent plows run deeper than they think. The very men that talked at the State fair plowed six inches at least. They obtained good crops, it would seem; but it would require a great deal of talking to convince us that they would not have had better crops and been better paid for the outlay of labor and manure, if they had plowed eight or ten inches deep and manured accordingly. The manure in such a case should not be sunk to the

bottom of the furrow, but harrowed in, so as to mingle more with the cold soil just turned up, and warm it by its fermentation, near the surface and under the strong influence of the sun.

Manure may be buried so deep as not to ferment for a long time, and then to be changed into compounds hurtful instead of beneficial to plants, or in other words, useless for the first crop, and rather injurious than otherwise to the after crops. It is certain that without the influences of sun and air, unfermented manures produce no good effect. We suppose, therefore, that the thorough commingling of the manure with three or four inches of the top soil is better, for both the first and the after crops, than to bury it more deeply.

If the gentlemen who commended four inch plowing for Indian Corn at the State fair, will turn over a turf eight inches deep, harrow in, with the furrows, thirty loads to the acre of a compost, half barn manure and half of swamp muck, decomposed with ashes, say one bushel of ashes to one load of muck; plant from the 15th to the 25th of May—as soon as the ground is warm enough to insure a quick growth, but not before—and then cultivate in the best manner, we think they will become reconciled to deeper plowing when they gather the corn, and will highly approve of it when they reap the fruits of the after cultivation.—Ed.

Since writing the above, we have come upon the report, in the *Country Gentleman*, to which we suppose our correspondent refers. Here it is, but we cannot see that it makes much in favor of shallow plowing:—

"CORN CULTURE.

"T. C. Peters, of Genesee county, said the best practice was to manure in the fall, plow late, say May 20, not over four inches deep, which is better than eight inches. Such treatment, has given 50 to 60 bushels of shelled 8 rowed corn per acre.

"G. Geddes pointed out the importance of discriminating between one soil and another, in deciding what depth to plow. Some light and deep soils did not need deep plowing—others of a heavier character absolutely required it.

"E. Cornell, of Tompkins, gave 30 loads of barn manure to an extremely poor and exhausted piece of land, plowed as deeply as possible, cultivated well, and had 80 bushels of shelled corn per acre—he had 123 bushels of shelled corn per acre, as the result of deep plowing, good manuring, and thorough cultivation. The corn was weighed early in winter, which G. Geddes thought would dry 20 per cent by next summer.

"A gentleman of Rhode Island had manured highly, plowed deeply, and planted 3 feet by 18 inches, and was rewarded with over 100 bushels of shelled corn per acre. Several gentlemen found that this mode of planting gave a heavier crop than 3 feet each way, but was attended with more expense in cultivation."

FALL PLOWING.

A SUBSTANTIAL farmer, one who is keenly observant, and who understands the business better than most, who lives by this hardest of all trades to learn, recently expressed to us a doubt with regard to the benefit of fall plowing for the corn crop—had often succeeded when he had turned over the turf but a few days before planting. He wished our opinion, and the reasons for it.

We have no over and above confident opinion in the matter. Fall plowing has been very confidently recommended in case of stiff soils till we believe it has almost become a standing article in the agricultural creed of our country, having but few dissenters. All this, however, does not prove its correctness, for nothing has been more common than for errors to be embodied and long retained in creeds.

It would seem to us, if we were to look at the question merely theoretically, that the plan of fall plowing would be thus;—You turn over the turf, say in November, doing the work as handsomely and as well as it can be done; the grassy portion commences to decay, and by planting time will have made considerable progress; you then, without plowing again, harrow in the manure, reserving a part, if you think best, for the hill, in order to give the corn a quick growth in the outset, which is more important for this crop than for any other; the harrowing and furrowing out, although not supposed to reverse the turf, stirs it, creates fissures, and lets in the air to hasten the decomposition of it into plant food. Now this would seem to us a more likely way to get a good crop than to turn the turf over only a few days before planting.

Well, the farmer does not care much about our theoretical notions, and there he is right. He wishes not to know whether it seems to somebody, perhaps afar off, a better way, but whether *it is a better way*. This throws him back upon his experience and the testimony of practical men. Now we believe that experience greatly preponderates in favor of fall plowing, especially of turf land for the corn crop. But we have heard it said, with regard to religious interests, that it will not do to trust to old experience; that however brilliant our old experiences, we ought to be learning something new and growing better men all the while.

In agricultural matters, we think it is very much so. We all have some experience, but we want more. Judicious experimenting is the way to obtain it. The man who has never practised fall plowing, has no experience on that point. We wish that at least a thousand of our subscribers would try an experiment adapted to settle the question, and give us the result next fall, in all cases of a distinctly marked character.

For instance, suppose you have a piece of turf land, which you design for corn next year, plow a part of it this fall and the rest in the spring, and then treat both parts precisely alike in all other respects, and observe the results. If you are in favor of spring plowing, then plow but a small part this fall and reserve the larger part to be plowed in the spring. If, on the other hand, you incline to fall plowing, you can plow the larger portion this fall and reserve but a small part for spring. Care should be had to select a field of uniformly good soil, and to treat both parts alike, except in the time of plowing.

To try this experiment, would cost no extra labor, and it would imply no great risk. An observation should be taken, through the early part of summer, as to whether the worms are more destructive in one portion than in the other; and if one part is materially better than the other, the reason of the difference should, if possible, be ferreted out. The *why*, as well as the *how*, is an important matter, with the farmer, because it helps to decide his future practice.—Ed.

Exhibition of the Hampshire, Hampden and Franklin Agricultural Society, at Northampton, Mass., Oct. 13th, 14th, and 15th.

Although we were there, and took a part in the ducking, yet too much water was unfavorable to the taking of notes, and we are indebted mostly to the *Hampshire Gazette* for the following, which we judge to be a fair statement so far as cattle are concerned.

"The rain came pattering down on Wednesday morning, dispelling the bright anticipations of cattle show, and making everybody look glum, from President and Secretary, down to the urchin who had been calculating on making an inroad on peddlers' carts and gingerbread stands. All day long the pelting storm continued; a few people ventured out, and india rubber overcoats, umbrellas,

and thick boots were in demand. The "clerk of the weather" seemed to have taken a spite at our cattle show and was doing his utmost to spoil it. But the farmers of "Old Hampshire" were too much for him, and they came out with their stock and their umbrellas, making the fortieth aniversary of the Old Society, memorable for the best show of stock and the poorest show of weather known in its annals for many years.

"STOCK.—Instead of a few disconsolate cattle, and a few more disconsolate owners, shivering in the rain, we beheld one of the finest shows of cattle ever held by this Society. Strings of 30 yokes from Hadley, 28 from South Hadley and 20 from Southampton, stood stretched along the ample grounds, wet but patient.

"Most attractive to all lovers of fine stock were the fat cattle, of which better specimens can scarcely be found in any quarter of our State than here. Westfield, of course, always carries off the palm in this respect, and from that town there were 11 pairs. Seth Bush presented 3 pairs, the heaviest of which would weigh 4,300 lbs; Charles Fowler 1 pair, weight 4,200 lbs; Hezekiah Taylor 4 pairs, the best weighing 4,300 lbs; Geo. Taylor 2 pairs, weight 4,500 lbs; and E. Owen Jr., 1 pair, which would weigh 5,000 lbs. The average weight of these eleven pairs could not have been far from 4,200 lbs. per pair. Not bad that for Westfield.

"Three pairs of very handsome fat cattle were presented by R. Hubbard of Hatfield. E. Twing of Conway showed one enormous ox which weighed, 2,675 lbs; it is of Durham blood, and has been fed with no meal this summer. Col. Rice of Conway also presented a very fine pair of fat cattle, and Chester Smith of Hadley, offered two pairs of the same kind, one of which weighed 4,600 lbs.

"The assortment of Bulls was good. 'John Bull,' owned by Paoli Lathrop, of South Hadley, 15 months old, and weighing 1,250 lbs., of the pure short-horn Durham blood, was a most superb animal. The bull of F. H. Williams, of Sunderland, noticed in our report of the Amherst show, was also on the ground, none the worse for the weather. Dexter Alice of Hatfield, exhibited a very fine 2 years old animal. I. K. Clapp, of Easthampton, presented a noble specimen. A Devon and Native bull, 16 months old, weighing 1,005 lbs. owned by J. Thayer of Williamsburg, was worthy of notice. Wm. Baker of Chesterfield, offered a very nice animal of the pure Durham blood, from Paoli Lathrop's stock, two years old, and weighing 1,630 lbs. J. A. Clark of Granby, exhibited a pure Hereford bull —"Cronkhill 2nd"—descended direct from "Cronkhill," the first imported bull of that breed, imported by Mr. Dowley.

"Working cattle were well represented. Two yokes from the State Farm in this town, a pair of four years old belonging to King Clark of Southampton, those of Z. A. Thayer of Easthampton, a pair owned by John Bridgman of Northampton, were all worthy of commendation, and most of them superior animals. A pair of five years old cattle, belonging to Cephas May of Conway, weighing 4,190 lbs. so perfectly well broken as to drive singly equally as well as in the yoke, attracted much attention, and were in every way excellent cattle.

"Very superior herds of cattle were presented by Paoli and Wells Lathrop, of South Hadley. They were of the pure blood short-horn Durhams, well known throughout the valley. Paoli Lathrop presented 6 yearling heifers—very handsome—two 2 years old heifers, and a bull calf 9 months old; in all 9 head. Wells Lathrop exhibited 5 head of the same blood, all superior animals. In this connection we cannot forbear to notice the Hereford stock contributed by J. A. Clark, of Granby; his cow, 4 years old, in particular, was a very fine

animal. He also exhibited a cow from the State Farm at Westboro, sent to his farm for stock purposes.

"Cows were numerous, and some very excellent specimens were presented. Lewis Clapp of Easthampton, exhibited a handsome cow, with calf four weeks old; he also showed five other head of cattle. A very fine cow, Grade Durham, 5 years old, was offered by W. P. Dickinson, of Hadley; at three years of age she averaged 10½ lbs. butter per week, and now thinks 12 no great churning. George Dickinson also offered a very superior grade Ayrshire cow.

"The display of two-year old steers is said never to have been better. Cephas May, of Conway, Otis Turner and ——— Sanderson, of Whately, W. P. Dickinson, of Hadley, Silas Sheldon, of Southampton, and G. B. Taylor, of Chesterfield, all offered very superior stock of this class. Mr. Taylor started at half-past two o'clock on Wednesday morning coming in all the rain, and is deserving of a premium for resolution as well as for the superior quality of his animals.

"Swine were better represented in quality than in number. M. B. Coggswell, of Sunderland, exhibited a sow with 14 pigs, of the Suffolk breed, and Henry S. Porter, of Hatfield offered a very good sow and pigs. Nathaniel Smith, of Granby, presented a very fine boar of the "Granite" breed.

"Sheep are never very plenty here, though there were about as many as usual. We noticed the Southdowns of J. M. Hatfield, of South Hadley, and a pair of Bucks of J. A. Morton, Hadley. Notwithstanding the weather, the old Society may congratulate itself on a very successful show of stock.

"Exhibition at the Hall. — The show in this department was varied and full of interest; in some respects better than in former years, and in others somewhat behind. In the lower hall were exhibited agricultural implements and mechanic arts, and they constituted a very respectable show.

"The upper hall contained the usual display, and most attractive was the fruit. There were in all 400 plates, and the specimens of apples were very fine. This show was the work of the Northampton Horticultural Club, and reflects great credit upon its members. The Easthampton Farmers' Club made a very large and valuable addition of fruits to the show, their contribution amounting to 167 plates.

"Very nice quinces were presented by Porter Nutting.

"The vegetable department was full to overflowing, and contained the finest of specimens. Quite an important contribution to this part of the show was made by the Easthampton Farmers' Club."

The Horse Show, which came off on the second day, exhibited a marked progress in this species of stock. The address by Dr. Geo. Loring, the dinner, served at the Mansion House, Gov. Banks' speech at the table, and sundry speeches by lesser lights, "after the desire of eating was satisfied," were all pretty good for such an occasion. Most of the speakers seemed to take it for granted that the farmers of that region are a little more greedy of praise than we think, after a pretty general acquaintance with them, they really are. That of Erastus Hopkins, Esq., was excellent. B. V. French, Esq., delegate from the State Board of Agriculture, spoke discursively, but well. We give a few of his sayings.—Ed.

"He was in favor of holidays, did not believe in all work, wanted farmers to come up and learn to do things better than they now do them. He wanted the whole State to be a cultivated garden, though he did not know where farming ended and gardening began. Farmers could not afford to lose time on experiments. New implements should be tested before they are offered

to farmers; they cannot afford to spend several hundred dollars for mowing machines, and find them worthless after a short trial. He spoke of the origin of the Royal Agricultural Society in England, and how Parliament had appointed a committee and furnished the means to drain lands and help the farmer; this committee did the work of building barns and houses, and gave the farmer thirty years to pay for them in; and so important did they consider draining, that they performed the work in that respect, and gave the farmers fifty years in which to pay. He dwelt at some length upon the utility of draining, and said that of the 60,000,000 acres of swamp land belonging to government, in 1856, 52,000,000 were sold in one year, showing that the farmers believe in draining. High farming he also favored, but he would have the farmer begin on a small patch, and extend his manner of cultivation as he discovered the capacity of the soil. The farmer must employ the chemist, and not be afraid to experiment on a small scale."

The ideas that "farmers cannot afford to lose time on experiments," and that "the farmer should not be afraid to experiment on a small scale," we suppose mean, when taken together, that they should experiment without losing time, and if so, they are just right. It is a great mistake to suppose that a farmer cannot experiment without throwing away his time. How long does it hinder the farmer, as he is tending his crops and gathering them, to observe the effect of his procedure on the crop and on the soil? Not a moment. And yet this is nearly all that is meant by experimenting—to be wide-awake, to notice the results of one's doings, and to draw inferences for the future.—Ed.

CATTLE SHOW AT AMHERST, MASS.

The anniversary of the Hampshire Agricultural Society occurred at Amherst, on Tuesday and Wednesday of last week. A poor show was never known under the auspices of this Society, and that of the present year was better in many respects than any of its predecessors. The Society is a sort of pet among the farmers of Eastern Hampshire; everybody takes an interest in it, and under the management of its present able and efficient Secretary it has come to be equal, and bids fair to excel, some of its older and more wealthy competitors.

Show of Stock.—The exhibition of stock was equal to that of any previous years, and in some respects superior to anything ever seen at this Society's festivals. Young stock in particular, was better both in number and quality, than ever before. Charles Adams of Amherst, exhibited a very fine Bull Calf, and the herds exhibited by Luke Sweetser and Flavil Gaylord of Amherst attracted universal attention.

That of F. H. Williams of Sunderland, a Grade Durham, two years five months old, was a noble animal. His weight 1752 lbs., a gain of 500 lbs. since last cattle show. He was the heaviest of his age on the ground. There were but few specimens of fat cattle, but some of them were of superior quality. The show of Swine was better than any we remember to have seen at this or at any other show. One sow was present with her little family of fourteen, and another with eleven.

The Plowing Match—Still attracts its crowd, though in many societies this part of the show has been dispensed with. It was held on the land of Luke Sweetser, about half a mile west of the village, commencing at 2 o'clock p. m., and the work was all well done. There were 13 entries in all, viz:—4 double plows, 6 horse teams, and 3 ox teams.

The Drawing Match.—Up and down the hill near the church, showed the strength and training of the oxen and the skill of their drivers, and attracted much attention.

The Hall—Was thrown open to the public at 12 o'clock, and was crowded to its utmost capacity during the day. The number of entries in the Hall was as follows:—Fancy Articles 106; Fine Arts 86; Carpeting 27; Cotton and Woolen Manufactures 45; Mechanic Arts 17; Miscellaneous Fruit 48; Apples 30; Flowers 24; Wheat Bread 34; Rye Bread 20; Rye and Indian Bread 12; Butter 24; Cheese 12; Maple Sugar 2; Honey 2; Wheat Flower 12; Vegetables and Grain 99.

"Most prominent in the display at the Hall was the fruit, more particularly the apples, of which there were some very handsome specimens. W. W. Dickinson of Amherst presented 32 plates; S. S. Dickinson of Amherst 25 varieties; Nathaniel Smith of Sunderland 21 varieties; Austin Eastman of North Amherst 21 varieties; and Amos Gray of Hadley 16 varieties. Grapes were not plenty, and peaches, as usual at this season, were exceedingly scarce. Bread, Butter and Cheese were largely represented, and the quality was such that none of the makers of either, needed that the society should award them the "Skillful Housewife" as a premium, and we hope it wasn't done. D. S. Cowles of Amherst presented 50 lbs. of the best Honey, and this notice of it comes in just right in connection with the bread and butter. Vegetables were most fully represented, large squashes, big pumpkins, festoons of corn, handsome potatoes, and everything in that line showed to good advantage. Alfred Baker of Amherst, showed 9 varieties of potatoes, and John Rankin of Amherst, 6 turnips which weighed 36 lbs. in the aggregate.

The tables were adorned with many very handsome boquets of flowers, one of the most attractive being that presented by Miss. Sarah R. Lyman of Sunderland. Several very handsome Oil Paintings were presented by Miss. M. R. Nims of Amherst. In this line we noticed a painting with all the marks of age about it labelled, "portrait of Pocahontas, taken at the time of her visit to England, by Sir Joshua Reynolds." A couple of engravings 77 and 78 years of age, one representing the "Musical Charmer" and the other the "Fair Penitent," showed the ancient style of engraving and the advance made in the art. One of the neatest things of its kind at the show was a landscape worked in worsted by Rev. Mrs. Tuxbury of Hadley. It was deserving of the highest praise. An Ashknot bowl, 120 years old, half filled with potatoes less than a year old, was one of the curiosities—the bowl not the potatoes.

Bed quilts were not numerous, but one of them made by Miss M. E. Eastman of Amherst, five years of age, is deserving of notice; another made by Ellen Kelsey of Amherst, who is 86 years old, cut and pieced by herself, shows abundantly what youth and old age are capable of accomplishing.

The usual number of washing machines, and other labor-saving, money absorbing articles of household convenience were presented. A one horse-mowing machine of Ketchum's patent, was on exhibition and attracted much attention as also was one of Manny's celebrated reapers.

Second Day.—The rain of Wednesday sadly interfered with the show, and it was a disputed point for some time whether the show of horses should be abandoned or not. It was finally decided to "put it through," and through it went, rain or no rain. There were some very fine horses. The entries of horses were, stallions 6, draft horses 5, mares and colts 8, farm horses 6, colts 25, single carriage horses 16, pairs carriage horses 4—total 70. Considering the weather the exhibition was most honorable. It was as good as of the fair weather shows of former years. Some interest was added, also, by Prof. Clark, who is a pupil and disciple of Rarey, the horse tamer, exhibiting a colt he had

himself tamed by the Rarey process, and giving the animal an additional lesson on the spot before a large collection of farmers and umbrellas.

The address took place at the church, which was well filled, and his excellency Gov. Banks, spoke for three-quarters of an hour, on the development of American wealth by its labor and inventive genius and the character and need of its agricultural interest. A procession then marched in the rain to the Amherst House, where some 300 persons sat down to one of landlord Howe's first-rate dinners. After eating came the speaking. Mr. Atawater, of Springfield, opening the ball, he was followed by Gov. Banks, who made, as he always does, a first-rate speech, closing with the following sentiment:

"The Ladies of Hampshire County—I have tasted their bread and butter and cheese in the Hall this morning; and I see their presence here this afternoon. I have no doubt that wherever they are, they will do as well as they have done to-day; and the best wish I could have for you, gentlemen of the society, is that you may always have their presence."

Rev. Claudius Bradford, of Montague; H. A. Longley, of Belchertown, and Col. A. J. Wright, of Boston, spoke, and the festival broke up about 4 o'clock. The show, in spite of wind and weather, has proved one of the most successful ever held by the Society.

Ed. Farmers' Magazine:—In your No. for September, I noticed a fifty years' mistake in an article from myself, containing an extract from a semi-centennial address to the people of Charlemont, among whom I continue to reside, prefaced by the remark "that it was delivered as long ago as December, 1799," instead of December, 1849, as the statement should have been. Now, sir, the query has arisen in my mind, whether so obvious a blunder should be corrected, or left to take care of itself, nothing essential in the article, as a whole, being materially affected by it. The conclusion on which I have settled, is, that strict truth is better for all purposes than falsehood, even if the latter be manifestly inadvertent, and apparently of very little consequence in regard to its tendency. We know that truth wrongs no one, and can never be accused of misleading any; but that which is untrue may prove to be pernicious in ways innumerable, never before apprehended or thought of.

So I resolved to close the door against the chance of any one's inferring from what he sees on record, that I am a prodigy among men, having attained an age greatly above what has been known since the days of the early patriarchs of olden times; or that I am such a foolish adventurer in matters of literary experiment and innovation, as to make an attempt to change the practice of giving appropriate discourses at the end rather than at the beginning of the half century.

That I should have committed such an error—though the time of my entering into connection with the people, among whom I was to spend my days and my strength in a capacity involving responsibilities of the most serious character, could not be easily kept out of mind—has been, and continues to be, a paradox, beyond my power of explanation. But the fact being undeniable, teaches what I am not at liberty to overlook or disregard, namely, that it is time for me to drop my pen, and think no more of contributing matter to help fill up the pages on which the reading public expect to find nothing except what is valuable and useful.

You will, therefore, Mr. Editor, readily excuse me, with all my respect for yourself, and my most earnest desire for your journal, that it may long live, prosper, and be a blessing to the industrial interests of our country. I say, excuse me from intruding myself any more

among the patrons to whom you look for communications with which to entertain and improve your readers.

For once, however, and for this time, permit me to add a short supplement to what has already appeared in illustration of what is characteristic of this valley and of those who inhabit it. You may be aware that in this locality a good share of the agricultural animation and enterprise of the age is in operation, and that, in a few instances, shows have been got up, as the fashion now is, and have given ocular proof that here we dwell in a good land, that here labor and economy are followed with encouraging success, and that the people are disposed to emulate their brethren in other portions of the country, in contributing what they may of energy and activity to replenish the earth with its appropriate riches, and to adorn it with what constitutes its true glory. Without the stimulus and aid of legislative bounty, or any other patronage from that quarter, the farmers of this neighborhood have resolved upon the experiment of relying on themselves, on the intrinsic excellence, magnitude and importance of the cause, in which they have a common interest, and are no other than workers, and on the general sentiment and feeling, that moneyed influence in pecuniary premiums is much less powerful to excite and sustain a laudable zeal in discharging the ordinary duties of life, and in managing the business of the farm, than habits of intercourse, by which a community of knowledge and impulse is established and propagated from one to another. They think that a holiday entertainment at the close of the season, at which they can exhibit specimens of the fruits of their labor and the reward of their skill, will be sufficient to furnish all the motive power needed to put forward the work, and insure all the progress and advancement towards perfection, which the institutions of the age seem calculated to achieve.

An organization for the purpose of holding a regular show, with all the benefits to be derived from such an exhibition, having been effected, the 28th of September was ushered in, rising upon us under the pleasantest and kindest auspices, the stimulating influences of which seemed to be felt by all about us. From all points the public avenues were thronged at an early hour, and the whole population, male and female, old and young, strong and weak, adults and little children, appeared to be astir, and on the wing; no one seeming to be willing to have it said that "he was a day after the fair."

The crowd was immense, all pleasant and joyous, all interested, and engaged to make the most of the occasion, to see and examine scrutinizingly the various products of the season, which a prosperous and industrious community had collected together for inspection, that all classes of persons might see how blest are they who choose and delight in the employments of rural life, and how generously the earth responds to the solicitations of those who court her friendship, esteem and honor her fertility, and court her favor by diligent and assiduous compliance with her requisitions.

The articles which constituted the grand spectacle, in all its branches, I shall not undertake to enumerate or describe, but only state that horses and oxen, and other domestic animals, such as abound in most parts of the country, were here seen in goodly numbers, and in fine condition, and with the best claims to commendation and high praise. Farm products, not excluding the proceeds of the garden, and household articles, which grow out of female industry and ingenuity, loaded many tables, and elicited much sparkling from many bright eyes.

The company left the grounds for their respective homes at a reasonable hour, in the same quiet and orderly

manner in which they had passed the previous hours of the day, after having been regaled by the music of fife and drum, the relics and remembrances of former days, and a choice band of players from a neighboring village, who enlivened the occasion by their presence, and the sweet tones of their instruments, having also listened to a sensible and ingenious address from Dr. Holland, of Springfield, the invited orator of the day.

I would conclude this brief sketch with an abstract of the Dr.'s speech, were I able to recollect all his points, his arguments and suggestions, sufficiently to do him justice in few words. I can barely state the subject, and that the speaker promised to his audience, at the commencement, that what he had prepared might be found in the *Atlantic Magazine*, and that notwithstanding this circumstance, he still was requested to pronounce it at that time and place. His labor was to describe farm life and homes in New-England as they had existed, and how they had been a weight upon the agricultural community to prevent its rising to the elevation it should have attained. The utility of such a theme, he appeared to consider as not consisting in our speculatively knowing the precise state of farming practices here or anywhere else; but in our being prompted to abjure and abolish the mistakes that we may have discovered in the course things had hitherto taken. And very great errors and mistakes, he thought, had kept the farming community in a condition far below the point at which it ought to stand. One cause of this was alleged to be a too exclusive dependence upon, and devotedness to, servile, hard labor, as if that were the chief, if not the only thing to be attended to. And as a necessary consequence of this, a lamentable deficiency in knowledge and refinement has followed; too much time spent in the kitchen, and too little in the parlor. More attention should have been given to books, and less to drudgery and the hard use of the muscle. Another supposed fact was considerably dwelt on, as having had a depressing influence on the respectability and thrift of farming, which is, that the ablest and best endowed sons of the family have been spared from the farm and sent to college to become professional men. The orator is too young, perhaps, to know what older men can attest. How universally it was said, even less than three-quarters of a century ago, that fathers kept their athletic sons at home to do the work, and their sickly, puny ones sent to college to make ministers, etc., of them. Times alter, and so do customs, men, and many other things. J. F.

Charlemont, Oct., 1858.

HORNED CATTLE AT THE CONNECTICUT STATE FAIR.

This Fair, held at Hartford, Oct. 13th, 14th, 15th and 16th, was eminently satisfactory to the people of that State, so far as we can learn. We had the pleasure of a brief stroll over its grounds, and were compelled to leave. The little attention we had time to bestow was given to the horned cattle; and though we did not see enough to be able to speak positively of our own knowledge, yet we are convinced that the following, which we take from the *Homestead*, is essentially correct, and not more flattering to its own State than is to be expected in all such cases. That paper says of the exhibition at large: "We doubt if there has ever been, far or near, so complete or interesting a display of the Agricultural wealth of the country." Of the horned cattle it says;—

"Short-horns.—In this department the show was excellent. To mention all the meritorious animals would be to catalogue the whole. The less that is said about the judgment of the committee the better. The committee was twice filed before those were found who would act. S. W. Bartlett & Son, of East

Windsor, exhibited a young bull and two heifers, one of which heifers took the second premium, and was in our opinion decidedly the best animal of her age on the ground. J. S. Allen of the same place showed some excellent cows; the stock of Messrs. Bartlett, as well as these are famous as milkers. E. A. Phelps of Avon, exhibited the choicest of his fine herd, also celebrated for their milking qualities. One of his cows, as was mentioned last week, was entered for the Society's premium to the best milch cow. The first premium was withheld, and the second awarded, on account of an incompleteness in the record of the trials. A. H. Beach of Kent, exhibited the fine stock, which, within the year, he bought of George C. Hitchcock of New-Preston. The animals were in excellent order and made a fine show, and take their share of the awards. W. J. Ives of Meriden, also showed excellent stock; his bull Dandy, probably attracted more attention than any other single animal. Thomas Cowles of Farmington showed Prince of Orange, and several other good bulls, and several young cows; Col. Mead of Greenwich, a very promising young bull; J. H. North of New-Britain, Tornado, a very large, handsome, good handling bull, and several head of young stock. This includes the stock which we noticed most particularly. There were many other exhibitors, whose stock may have been equally worthy, which we do not recollect.

"Devons.—We viewed the long lines of these beautiful animals with real pride. Litchfield county showed by far the most, but Hartford, New-Haven, Middlesex, are following hard after her, and even New-London and Windham bid fair to be not far behind. One thing we exceedingly regret to see, that is the *white bellies*. White does not belong on the belly of a Devon cow, and no more do short thick-based waxy horns; but there were many of the "improved" Devons of recent introduction present, which possessed these characteristics, and at the same time we doubt not unblemished pedigrees. We claim it is high time for the Society to insist on not only perfect pedigrees, but in addition, and of greater weight, a judgment of animals by their *points*. A short-horn breeder of note said to us, "I do not believe in any white on a Devon, except at the tip of the tail, any more than I believe in black in a Short-horn." The cows of the old stock with their sleek mahogony colored hides and white taper horns looked as aristocratic as dowager queens among the tawny white-bellied waxy-horned herd. We are thankful that there are enough of the old stock left to regenerate our stock if we choose to, and here express our settled belief that we shall soon lose our position as breeders of Devon oxen, unless we look well to our laurels. If any body would convince us to the contrary, he is at liberty to try, and we will lend him an attentive ear, and an occasional column in *The Homestead*.

"The largest show was made by S. and L. Hurlbut of Winchester,—five bulls and seventeen cows and heifers, proving the reputation of the old firm to be in good hands. Other prominent exhibitors were the Griswolds of Torringford, B. H. Andrews of Waterbury, the Linsleys of Meriden, Chester Elmer of West Hartford, Jacob N. Blakeslee of Watertown, F. W. Cowles and J. and W. Tillotson of Farmington, James A. Bill of Lyme, Abajah Catlin, of Harwinton, and Wells Brothers of New-Britain. Nicholas, a four year old bull, shown by Samuel B. Daggett of Andover, the only Devon animal we think from Tolland County, is a very superior animal, as is also a five year old bull from Brooklyn, owned by W. H. Putnam. They are making a mark on the stock of their respective localities that will never be effaced. Our limited space forbids the mention of other excellent animals from

counties where this stock is better known and appreciated.

"ALDERNEYS.—The show of this delicate breed of butter-makers was never nearly as good as at the present fair; in all there were some four and twenty animals entered, the chief show being made by John A. Taintor of this city, and John T. Norton of Farmington. Donald G. Mitchell, of New-Haven, showed an excellent two years old bull. Mr. Norton's three years old was certainly the best looking Alderney bull we ever saw. They are not usually beauties. One of the best cows was shown by Geo. Affleck of Hartford. We noticed pans of milk standing in the stalls of Mr. Taintor's and Mr. Norton's stock, showing the rich, golden cream which makes the breed so celebrated. Mr. Norton exhibited a large tub of butter, in half pound balls, of the richest yellow color, and of the most perfect quality, made entirely from Alderney milk. Those unacquainted with the breed could hardly believe it was not colored, till a pan of milk was set beside it, showing the same color.

"AYRSHIRES.—Nearly a score of excellent Ayrshires and their grades were shown. Mr. Bill's bull Scotland is the largest and handsomest Ayrshire we have ever seen. His points are good, and we know of no reason to doubt his purity on account of his size. He was selected for, and imported by Capt. Nye of the steamer Pacific. Thomas Treadwell's stock is from the famous herd of Mr. Prentice of Albany. Mr. Battell of Norfolk, one of the earliest breeders of Ayrshires in this State, showed several very superior animals of his herd. M. H. Griffin of Middletown, N. and J. Tillottson of Farmington, Col. Solomon Porter of Hartford, showed each good grade animals.

"NATIVES AND GRADES.—There were a large number of entries of natives. Most of them were evidently grades, though we presume the cows and heifers which took the premiums showed to the satisfaction of the committee that they had less than one-eighth foreign blood. We cannot enumerate them. We passed through the stalls with one of the best judges of cattle on the grounds, who gave it as his opinion that some of the animals entered as Durham grades, had no Short-horn blood, but the old Holland blood was mistaken for it, and they should be classed as natives. A bull of Horace Latimer of East Hartford, was called a Durham grade also. Persons familiar with the so-called "Sweet" breed recognized it at once. This we believe is like the South American wild cattle and is characterized by small head and horns, full dewlap, no brisket at all scarcely, thick neck, a falling-in back of the shoulders, thin flank, and exceedingly round, full buttocks. This build is very peculiar, and to an unaccustomed eye very attractive. It is said that the flesh, in great masses as it is, is entirely devoid of fat. We should like to know from Mr. Latimer something of the history of the bull which he exhibited; if our surmises concerning him and his race are wrong, we should like to have them corrected.

"The grade stock of our State, retaining as it does the best qualities of the old native breeds, and perpetuating them, combined with, either the working qualities and rich color of the Devons, or the beef-making qualities of the Short-horns, constitutes the best part, the most valuable part of our wealth in neat cattle. The number of exhibitors in this class was more numerous than in all others twice told, and the show was never better; probably the real value of the cows not as breeders of fancy stock, but as producers of milk and stock for use was much greater than that of cows in any class of thorough-bred stock. There was one bull belonging to Mr. Kellogg of Newington, in which we took much interest, and regret that we had not an interview with his owner. We learn

that Mr. Kellogg claimed that he was bred from stock which for many years (thirty or forty) had been kept as free as possible from foreign blood, and he gave, to our mind, good evidence of it. That he had exceedingly little foreign blood was evident, and that what he might have was not Devon, was also manifest. On reference to the books, however, we find his name transferred from the native book to the Devon grade book. We should like it very much if Mr. Kellogg would give us some information concerning his stock, unless he is convinced that he has a considerable admixture of foreign blood.

"Working Oxen.—The pride and wealth of Connecticut, as we have already said, were exhibited in strength and beauty, which did one's heart good; gladly would we enumerate them. Our readers know in general who are most famous as breeders, and it is these whom we like best to honor; still, he in whose business the raising of cattle does not come, but who will use only the choicest of their kind, deserves scarcely less credit. For the "native" breed we must say one thing;—the pair which in the estimation of fully half was the best on the ground, and which took also the first premium in its class of five years old, are to all appearance natives, without a trace of foreign blood; judging them merely as beef animals, they are a little coarse. This is a good deal to tell in those days of Devon ascendancy.

"Fat Cattle.—We have held and heretofore expressed in *The Homestead*, that the prize for the beef feeder to strive after was the price per pound which he can get for his fat animals,—the real prize being the profit. But after such a show of beef as we have seen, we are led to other reflections. Beef is the end of all neat cattle. Beef feeding is one of the most important branches of farm economy. We hope the time may soon come, when we shall see a strife as earnest between the breeders of different kinds of stock which are bred for beef to secure for their favorites the championship in this particular, as is witnessed every year in the London Butchers' show. The show was never nearly so fine as this year, though perhaps equally fat cattle have been shown. There were eleven entries—four single steers, and seven pair of cattle, every one excellent.

"Team of Oxen and Steers.—A premium of $20 is offered for the best team owned, raised from yearlings, and broken by the exhibitor. There were two entries. Jacob N. Blakeslee's were awarded the premium, and were well worthy."

ITEMS CONCERNING THE AGRICULTURAL FAIRS.

The Stephenson County (Ill.) Fair seems to have been a success, notwithstanding the unfavorable season and the foul weather at the time, Oct. 6th, 7th, and 8th.

Mr. Wise, of Freeport, had on show, a Manny Prize Reaper and Mower Combined, made by Tallcott, Emerson & Co., Rockford. It is given to the State Agricultural Society, to be given to the man who raises the best 40 acres of wheat in Illinois. It is one of the most beautifully-finished machines we ever saw. A late improvement in this machine enables the driver to throw it in or out of gear, without leaving the seat, and while in motion.

Mr. Manny is a veteran in the production of labor-saving machinery for the farm, and we are glad to see that he is able and disposed to offer so fine a premium for the encouragement of Agriculture.

The whole number of entries was nearly 1000, and the fair as a whole was decidedly the best ever held.

"The N. Y. State Fair, held at Syracuse, was a grand demonstration in most departments. The weather, however, prevented its proving a success pecuniarily; and we observe that some of the city papers are scorning the Sy-

racuse people for [sins of omission and commission—exorbitant charges, and "bleeding" generally. We heard nothing of the kind while at the fair, but *did see* and *hear* enough to convince us that a great many ordinarily good and honest people consider it no crime to shave and cheat a Society. The fair was generally well managed—Col. Johnson, the long-time secretary, being a host in himself, and rendering the duties of other officers comparatively easy and pleasant." [So says the *Rural New-Yorker*, and it was there to see, as unfortunately we could not be. We should think the hints worth considering by such places as are fond of monopolizing these exhibitions.—Ed.]

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Michigan State Ag. Society.—The annual election of officers for the Michigan Ag. Society, took place at the close of the recent Fair, held at Detroit. Col. Charles Dickey, of Marshall, was chosen *President*. The presidents of the County Societies in the State were made *Vice-Presidents*. The exhibition is said to have been successful.

The president announced that the receipts at this fair had been $4,200, being $1,200 more than last year.

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Pennsylvania State Fair.—This Fair seems also to have been successful. A writer from that State says;—"To-day closes our State Fair—the best ever held in Pennsylvania. With the exception of one day, (Friday,) the weather was delightful. The attendance on Thursday exceeded all expectations; at least 50,000 persons were on the grounds during the day. All day long the city poured out a continuous stream of people. The dusty roads were crowded with vehicles from the country—long trains of cars brought curious visitors from the most remote portions of this and other States. The Fair seemed to give every one a holiday. Heretofore the State Society has lost money at their exhibitions; but this season they will have a surplus."

ITEMS.

The Pacific Journal—J. H. Rogers, Editor, Eugene City, Oregon.—We have received a copy of this journal for exchange, and shall send our journal, and be pleased to communicate all that may be interesting in this section to our friends in Oregon.

L. F. Allen, Esq., Black Rock, has issued a Circular for the Fourth Volume of the American Herd Book.

The Agricultural College Farm at Ovid, has received from Emery Brothers a very fine Two-Horse Power Thresher and Separator.

Hand Book on Fruit Culture—By Thomas Gregg. Published by Fowler & Wells, 308 Broadway, New-York; paper, 30 cents; cloth, 60 cents.—This is a valuable book, and contains instruction to the Fruit Grower which will greatly facilitate him in his work.

Farmers' Club of Rockland County.—A Farmers' Club was organized at Clarkstown on 3d of September; a Constitution and By-Laws reported by A. B. Conger, Richard Coe, and J. A. Stevens. *President*—Hon. M. G. Leonard. *Corresponding Sec.*—A. Edward Suffern. *Treasurer*—John E. Hogenkamp.

These Farmers' Clubs, if rightly managed, are capable of great benefits to the farmer. We rejoice to hear that they are becomming common.—Ed.

Herefords.—E. Corning, Jr., of this city, has lately sold a fine bull and heifer calf to J. D. Conroe, of Racine, and a superior bull calf so Alfred Clarke, Esq., of Cooperstown.

Sanford Howard has purchased and shipped from Liverpool, for the Massachusetts Agricultural Society, six bulls, fourteen yearling heifers, and four cows, of the Ayrshire breed. Several fine South

Down bucks were shipped at the same time for Col. Morris, of Westchester.

The importation of stock from Europe has undoubtedly been of vast service to this country within the last half century. It has given us better ideas what our stock should be, what we are to aim at, and how we are to attain the end. For this reason, and not because Europe can grow better stock than America, it has been well thus far that we have traded in cattle with England. For the future we ought to rely on early breeding from the stock we now have; and if we avail ourselves of the advantages now in our hands, the current of transportation will be reversed before another half century.

The Prairie Farmer, hitherto published at Chicago, Ill., has been absorbed by a potent rival, and the united work is now published as *Emery's Journal of Agriculture and Prairie Farmer.* A step in the right direction, yet to be followed by many other agricultural papers.

Weighty Colts.—Mr. Benj. Bradley, of Lyons, N. Y., states that he has a span of matched colts, one year old last June, that weigh 1,850 lbs. Mr. B. says he would like to hear from any one who can beat them.

Sontag's Colt.—William H. Ladd, of Richmond, Jefferson Co., Ohio, has bought, for $1,500, Sontag's colt, sired by Ethan Allen. It is now only four months old. Its sire and dam are the fastest trotters ever known.

Horticultural.

CALENDAR FOR NOVEMBER.

FLOWERS.

Many *Roses* that are too tender to stand out of doors unprotected, may be cut down to within a foot or eighteen inches of the ground, and then have some straw or litter thrown loosely over them; or when they stand on lawns or other places where it is desired to avoid a littery appearance they may be tied up to stakes and straw placed round them.

Dahlia roots should be dug up (as soon as the first frost cuts their foliage down,) and stored away in a dry, cool place until spring.

Greenhouse plants should all be re-returned to the house if not already done; but air should be admitted liberally, daily, until frost sets in. Take off decayed leaves, and keep the greenhouse as dry as possible, but use no fire heat until night frosts are sharp enough to lower the temperature of the house below 40° Fahrenheit.

Trees and shrubs of all kinds may be planted as long as the ground is open; but evergreens after being planted should have a good mulching of coarse manure or litter over their roots to protect them.

Hyacinths, and other bulbs, may now be potted for blooming in the winter. Equal parts of old hot-bed manure, white sand, and good garden soil or loam, mixed together, will grow them well.

Chrysanthemums now in bloom tie up, and choice sorts may be propagated from the shoots that will now be thrown up from the root. They will grow in a cold frame or in a window.

KITCHEN GARDEN.

Spinach that is growing for a spring crop, should be weeded and thinned out. When frost comes cover slightly over with straw or hay for protection.

Celery.—The late crops of this will still require earthing up. But all must

be taken up and stored away before the end of the month.

Fruit Trees of all kinds may now be planted, but peaches do best in spring it is generally conceded.

Strawberry beds should have a slight covering of leaves or straw thrown over them on the approach of severe weather, to be turned in under the surface between the plants in the spring.

Cold Frames in which *Lettuce*, *Endive*, or other vegetables have been planted for winter use, should be opened freely to the air daily, until frost comes; but shut up the frames early in the afternoon, and when frosty nights are expected cover the frame over with mats or straw.

CARE OF FRUIT AND ORNAMENTAL TREES.

There seems to be a great deal of practical good sense and good economy in the following suggestions from a writer in the Germantown *Telegraph*, which we copy as the basis of a few remarks on the above subjects;—

"It is not always necessary or indispensable, in order to have good fruit, and enough of it, that a section of the farm be especially set apart appropriated to its cultivation. There are many corners and 'segments of soil,' unoccupied by any valuable crop, where a few trees can be grown; and as such 'out of the way' places are commonly rich in the elements of vegetable life, the growth of trees, when properly set, is there even more rapid and healthy than in the best cultivated soil. A homestead, where every nook and corner is occupied with thrifty and prolific trees, presents a truly rural and beautiful picture of industry and thrift, and cannot fail to exert a most genial and elevating influence upon the owner's mind. Cherry, peach, plum and quince trees, together with apple and pear trees, grape vines, etc., may thus be scattered around your yards and enclosures at trifling expense, and having a rapid and vigorous growth, when properly nurtured, will soon reward you for your industry and forethought, with the grateful richness and abundance of their fruit. Set a tree, therefore, by all means, wherever you can find room. Agricola.

"*Lower Dublin*, April 13, 1857."

Trees are more easily protected from the depredations of stock if arranged in an orchard. If placed as near each other as may be without interfering, they mutually protect each other from cold winds; and if arranged in the orchard form, they better admit of being surrounded with rows of shrubs and forest trees, an excellent practice in peculiarly exposed situations. The setting of here and there a fruit tree, as the soil and situation favor, should hardly be adopted as a substitute for the well-fenced and carefully-preserved orchard. But as an auxiliary means of securing fruit, of giving beauty to the landscape, and of appropriating each nook and corner to something useful, and for which it is best adapted, it deserves to be recommended. On the way-side even, the practiced eye will detect positions where a standard apple-tree would be in no one's way, where it would grow and produce abundant fruit for a quarter of a century at least. There might be another advantage. We think it would sometimes happen, that when insects prey upon the orchard, isolated trees about the farm would escape their ravages.

Our object at this time is rather to speak of the care of trees. To set a tree, and then take no care of it, is labor lost. For the first summer, at least, the young, newly-transplanted tree cannot well endure the changes of temperature and occasional drouths incident to our climate. The application of water, in moderate quantities, at sunset, would remedy the evil, if done regularly and with good judgment. But this would imply too much labor. It would be

likely to be neglected. There is a surer way. It is cheaper and better. A *mulching* of straw, marsh hay, leaves, or something of the kind, will keep the ground more even in temperature, more uniformly moist, in a state more genial to the healing and growth of the roots, than all the personal attention that could possibly be applied. It costs nothing, for the enriching properties of the mulch are worth more than the labor of applying it. It is steadily there. It will never forget to do its offices, both of keeping the soil moist, and of nearly uniform temperatnre by day and by night, and from week to week. It should be applied when a tree is transplanted, but may be applied long after advantageously. June, July, August and September are the months in which young trees are more especially benefited by this measure, but the mulching can do no harm in the fall and spring, and in winter would be of decided advantage by keeping the roots from too hard freezing, but if suffered to lie over winter, it should not lie too close to the tree, as it might cause the mice to gnaw the bark.—Ed.

THE FARM GARDEN.

SELECTION OF SOIL—PREPARATION.

It is often said by agricultural writers that farmers do not bestow as much thought and labor upon the garden as would be profitable. We believe farmers themselves admit that their temptation is the other way. The *farm* may be large; it requires attention all over. The garden is but an insignificant patch, and they are apt to feel that too much time must not be spent upon it.

We remember distinctly, that when a child, our mother and sisters would ask for the services of the hired man to block out the flower-beds, and put in the seeds for the garden vegetables. But our father, a kind-hearted man as ever lived, and a very successful farmer, had an eye to the fields. There were 250 acres to be looked after; fences to be repaired; the sheep were to be sheared; the calves were to be killed, and carried fourteen miles and sold for 2 or 3 cents a pound, if not in cash, for something the family wanted; thirty head of cattle, half of them milch cows, were to be taken care of; the manure to be applied; plowing, sowing, planting, how many things to be done! Couldn't stop about flowers. The garden was but one five hundreth part of the farm; it wouldn't do to stop about it. Flowers were all very well, but God gives us flowers—see the apple trees, the quince bushes, the very briars, the whole face of nature, redolent with floral beauty—flowers enough everywhere—no need of stopping to cultivate them. As for good things for the table, the garden afforded many, but the fields, the pastures, the dairy, afforded more; and what was most important must be attended to first.

Many a good farmer has failed to appreciate the pleasure to his wife and daughters of a succession of flowers, cultivated mostly by their own hands, and blooming from May to November; and what is more, many have underrated the economical value of the garden. We look upon the garden as indeed a *small* but *important* part of the farm. Its delights for the eyes, its delicacies for the palate, its substantial food for the family, if we mistake not, are undervalued by many a sterling farmer. Many a farmer, we believe, who seldom misjudges on other points, fails to appreciate both the esthetic and the *economical* value of the garden. We long for the time when every farm will have on it a garden of from a quarter of an acre to an acre, which will be the first thing to see when you visit or pass by it—a first-rate source of enjoyment, and, at least equally with other parts of the farm, a source of wealth.

The present is a favorable season for selecting and preparing the ground,

for enlarging the old garden, if that seems best; for changing its location, if that is better; and, wherever you will have it hereafter, or of whatever size, for having the plot in readiness to be worked early next spring. A lightish loam is on the whole most desirable, with reference to all fruits and vegetables though a heavy loam might be better for some, and a sandy soil for others.

If you have not a feasible loam, make it such by underdraining at least three feet deep, and by the addition of sand, if too too clayey, of clay, if too sandy, and plenty swamp muck or leaf mould, in either case. If you are within reach the New-Jersey green sand marl, do not fail to add some of that; it is a fertilizer which acts promptly and yet with lasting effects, the price of which is such as to offer little or no temptation to fraud on the part of the seller.

To have a plot of ground, selected, underdrained, deeply plowed, with such additions to the soil as to make it rich and feasible, and in all respects ready for an early start in a superior gardening next spring, seems to us an important consideration for every farmer.

Do not say that fancy men can have a good garden, but you can not. You can hardly afford not to have it. We want you should have a garden to be proud of. It is not wrong to be proud of a good thing, created by your own energy and sound judgment and good taste. We will not say that such a garden, as you can cultivate, will certainly make you rich; but we are quite sure it will add to your wealth, and to the health and comfort of your family. No one thing contributes more to the well-being of the farmer's household—to their health, wealth, pleasure, profit, contentment with their lot, just pride of position—than a well cultivated garden. It is at once beautiful, and it is *economical*. It breeds nothing vicious, but tends to all that is virtuous. Have a good, a first-rate garden next year, as good practically, if not quite as fine, as your fancy men at their country-seats; and do not let this year end without having your plan matured and everything in readiness, to secure success.—Ed.

GRAFTING THE GRAPE VINE.

We have met with many experienced persons who have never seen the grape vine grafted. The process is so easy, that thousands who are anxious to possess the newer varieties, should especially take care of their old roots and insert scions of the new. No clay or covering of the grafted part is necessary, beyond the natural soil, below which the graft is to be inserted. Saw off your stock, and put in your scion with two or three buds, wedge-fashion, as in the cleft grafting of fruit trees, and then cover up a few inches, leaving one or two buds above ground; where the stock is very large, and inconvenient to split, a gimlet-hole, so made as to bring the two barks together, answers. The sprouts of the old stock, as they spring up to rob the graft, must be pulled off. Grafts often bear some fine clusters the first season of their growth, and many more the second year. In this way, the old stocks of wild grapes removed from the woods are very useful with due care. We have lately seen an old Catawba vine that was wanted for shade forty feet off, laid down for a year till it had rooted well, and then was grafted with prefect success, and fruited the first season.—*Horticulturist.*

A BUSHEL OF TOMATOES FROM ONE STALK.

At the agricultural fair at Brookville, Indiana, on the 22d ult., a tomato plant thirteen feet high was exhibited, from the first three feet of which, it is stated, a bushel of tomatoes had been gathered! Some tomatoes, that.—*Southern Ægis.*

☞ What is it that causes a cold, cures a cold, and pays the doctor? A draft.

Miscellaneous.

STUDY THIS AND READ THE NEXT!

Labor was the son of Necessity, the nursling of Hope, and the pupil of Art; he had the strength of his mother, the spirit of his nurse, and the dexterity of his governess, and came down upon earth to oppose the devastations of famine.

It does oppose them and that successfully. If every one was willing to perform his share of labor—intellectual and physical—whatever he is best adapted for—there would be very little real evil in the world.

THE SCHOOLMASTER — HIS FUTURE.

We look forward with hopes to the time when teaching will be a distinct profession, requiring the same course of studious preparation as law or medicine. The importance of the teacher's labors cannot be exaggerated. He wields the future success and character of the man. The work which others perform may be seen and calculated, but who can reach so far, even in imagination, as to touch the completion of that structure which has its foundation in the mind of the child? It was the first impulse which gave motion and shape and direction to the universe, and sent the earth and stars to wheel uninjured through their orbits in eternal space. It is the first influence—in the beginning it may be only a grain of sand hidden in the bosom of the earth, which imparts strength and beauty to the hundred years of oak, or foredooms it to a distorted and feeble maturity. It is the first impulse, likewise, which shapes and sentences the ever-during mind. "I hold that every man is a debtor to his profession," said Webster; and surely no one has so much power to dignify his office as the teacher. If the next century witnesses as vast achievements in the arts of imparting knowledge as the last has—if text-books, the railways and telegraphs of mental communication and wealth, go on improving and extending, perhaps, the same amount of knowledge may be accessible in weeks which it now requires months of labor to attain. This promise for the future rests with the teacher. Whatever is to be the hereafter of our country, whatever the calamities which party warfare may engender, we cannot fail to be secure in the homes of our principles and liberty, so long as the common school, the peaceful glory of New-England, is perpetuated, and the work of the schoolmaster is honorable and honored.—*N. A. Review.*

TIMES GO BY TURNS.

The following beautiful poem, by Robert Southwell, an English Jesuit, who was born in 1560, and executed at Tyburn in 1695, is, in compactness of thought and felicity of expression, hardly equalled by any similar production within our knowledge. It is a perfect mosaic of maxims, and, with very slight alteration, would bear cutting up into lines, every one of which would serve as an apothegm.

The wonder is, that a Jesuit should have been hung. We never dreamed but that Jesuits sometimes deserve hanging as well as other people, but we always thought that the sly rogues had wit enough to keep their necks out of the halter, however much they deserve it, and that the fraternity take good care to secure immunity for a brother, and generally succeed in it, whatever the crime. There must have been some mistake in father Southwell's case. But he wrote good poetry;—

The lopped tree in time may grow again;
Most naked plants renew both fruit and flower:
The sorriest wight may find release from pain;
The driest soil sucks in some moistening shower;
Time goes by turns, and chances change by course,
From foul to fair, from better hap to worse.

The sea of Fortune doth not ever flow;
She draws her favors to the lowest ebb;
Her tides have equal times to come and go;
Her loom doth weave the fine and coarsest webb;

No joy so great but runneth to an end,
No hap so hard but may in time amend.

Not always full of leaf, nor ever spring,
Not endless night, nor yet eternal day;
The saddest birds a season find to sing;
The roughest storm a calm may soon allay.
Thus, with succeeding terms, God temper-eth all,
That man may hope to rise, yet fear to fall.

A chance may win what by mischance was lost;
That net that holds no great, takes lit-tle fish;
In some things all, in all things none are crossed;
Few all things need, but none have all they wish.
Unmingled joys here to no man befall;
Who least, hath some; who most, hath never all.

COOKING CUCUMBERS.

Somebody is dissatisfied that, when we said cucumbers were as good cooked as egg plants, we did not tell how to cook them. Very well, here is how: Take a full grown cucumber, ripe, but still solid, and slice it thin—that is, not over a quarter of an inch thick—and dip the slices in flour batter so as to coat them, and then fry them in very hot lard and plenty of it (not in a greased skillet,) and eat them hot, and see if cucumbers are not eatable. Slices of salt fat pork treated in the same way are a good accompaniment. In both cases the batter should be cooked of an even light brown. —*Me. Far.*

GARDENING FOR LADIES.

Make up your *beds* early in the morning; *sow* buttons on your husband's shirts; do not *rake* up any grievances, protect the *young and tender branches* of your family; *plant* a smile of good temper in your face, and carefully *root out* all angry feelings, and expect a good *crop* of happiness.

INDUSTRY.

Every young man should remember that the world has and always will honor industry. The vulgar and useless idler, whose energies of body and mind are rusting for want of exercise—the mistaken being who pursues amusement as a relief to his enervated muscles, or engages in exercises that produce no useful end; may look with scorn upon the smutty laborer engaged in his toil. But his scorn is an honor. Honest industry will secure the respect of the wise and good among men, and yield the rich fruit of easy conscience and give the heart self-respect which is above all price.

HORSES.

It is estimated that there are 50,000 horses in the State of Massachusetts, 221,000 in the New-England States, and 4,500,000 in the United States. Ohio stands foremost in the number of horses, New-York next, Pennsylvania next, Kentucky next, and Minnesota last of all. Estimating the horses of Massachusetts at $75 per head, their value will be $3,750,000, and all the horses in the United States at the same rate, would make a value of $337,500,000, or more than three times the whole cotton and woolen manufacturing capital of the Union. The horse interest is a most important one to the wealth and prosperity of the States.—*Emery's Journal.*

KIND WORDS.

Some good-hearted person well says: "Kind words are looked upon like jewels in the breast, never to be forgotten, perhaps to cheer with their memory a long, sad life;—while words of cruelty, or of carelessness, are like swords in the bosom, wounding and leaving scars which will be borne to the grave by their victim. Do you think there is any bruised heart which bears the mark of such a wound from you? If there is a living one which you have wounded, hasten to heal it;—for life is short—to-morrow may be too late."

TOMATO CATSUP.

Mrs. Vorce, McHenry Co., Ill., contributes the following to the *Agriculturist:* Boil half a bushel of tomatoes 15 or 20 minutes in a kettle, with just sufficient water to cover the bottom. Mash and rub them through a sieve, add a tea-cupfull each of ground pepper and allspice, ½ of a tea-cup of ground cloves, and the same amount of salt, 3 red peppers and 3 garlics. Scald together and put in a stone pot, taking off the scum until it is done rising, when scald again, and having added one gill of brandy, bottle for use. The same proportion may be adopted in a smaller quantity. Mrs. V. says this is excellent.

DANIEL WEBSTER'S LETTER ON SUNDAY-SCHOOLS.

MARSHFIELD, June 15, 1852.

PROF. PEASE—Dear Sir: I have received your very able and interesting annual report of the New-York Sabbath-School Association, and read it with great pleasure and instruction. It is gratifiying, very gratifying, to learn that in "a city where vice and immorality run riot with impunity," a few humble Christians have devoted their time and energies to the cause of religion, and I fervently pray that your labors may be crowned with success.

The Sabbath-school is one of the great institutions of the day. It leads our youth in the path of truth and morality, and makes them good men and useful citizens. As a school of religious instruction it is of inestimable value; as a civil institution it is priceless, and has done more to preserve the liberties than grave statesmen and armed soldiers. Let them be fostered and preserved until the end of time!

I once defended a man charged with the awful crime of murder. At the conclusion of the trial, I asked him what could induce him to stain his hands with the blood of a fellow-being. Turning his bloodshot eyes full upon me, he replied, in a voice of despair, "Mr. Webster, in my youth I spent the holy Sabbath in evil amusements, instead of frequenting the house of prayer and praise." Could we go back to the early years of all hardened criminals, I believe, firmly believe, that their first departure from the path of morality was when they abandoned the Sabbath-school, and their subsequent crimes might thus be traced back to the neglect of youthful religious instruction.

Many years ago I spent a Sabbath with Thomas Jefferson, at his residence in Virginia. It was in the month of June, and the weather was delightful. While engaged in discussing the beauties of the Bible, the sound of a bell broke upon our ears, when turning to the sage of Monticello, I remarked, "How sweetly, how very sweetly sounds that Sabbath bell!" The distinguished statesman for a moment seemed lost in thought, and then replied: "Yes, my dear Webster, yes, it melts the heart, it calms our passions, and makes us boys again."

Here I observed that a man was only an animal formed for religious worship, and that notwithstanding all the sophistry of Epicurus, Lucretius, and Voltair, the Scriptures stood upon a rock as firm, as unmoveable as truth itself. That man, in his purer, loftier breathings, turned the mental eyes toward immortality, and that the poet only echoed the general sentiment of our nature in saying, that

"The soul, secure in her existence,
Smiles at the drawn dagger and defies its point."

Mr. Jefferson fully concurred in this opinion, and observed that the tendency for the American mind was in a different direction; and that Sunday-schools (he did not use our more correct term, Sabbath) — presented the only legitimate means, under the constitution, of avoiding the rock on which the French Republic was wrecked. "Burke," said he, "never uttered a more important truth than when he exclaimed that a religious education was the cheapest defence of nations." "Raikes," said Mr. Jefferson, "has done more for our country than the present generation will acknowledge; perhaps when I am cold he will obtain his reward; I hope so, earnestly hope so. I am considered by many, Mr. Webster, to have little religion, but now is not the time to correct errors of this sort. I have always said, and always will say, that studiously perusing the volume will make better citizens, better fathers, and better husbands. Of the distinguished Raikes, he was, *clarum et venerabile nomen*." I took the liberty of saying that I found more pleasure in Hebrew poetry than in the best productions of Greece and Rome. That the "harp upon the willows by Babylon" had charms for me beyond anything in the numbers of the blind man of Smyrna. I then turned to Jeremiah, (there was a fine folio of the Scriptures before me of 1458,) and read aloud some of those sublime passages that used to delight me on my father's knee. But I fear, my dear friend, I shall tire you with my prolix account of what was a pleasant Sabbath, spent in the company of one who has filled a very large space in our political and literary annals.

Thanking you for your report, and heartily concurring with you in the truth of your quotation, that "Righteousness exalteth a nation, but sin is a reproach to any people," I remain, with a high regard, your friend, D. WEBSTER.

SONS.

As your sons advance towards manhood, cease as far as possible meeting their faults with reproof, censure or ridicule; but let your exterior rather exhibit a loving interest in them, while in the gentlest manner possible you win them away from what is wrong, coarse, unamiable, or evil. At this age your power over them for good will lie mainly in your power to inspire them with the tenderest filial regard. If you put on a harsh manner, you will surely repel, and lose your influence at a time when more, perhaps, than at any other period in their lives, they need to be held close to you by cords of the tenderest affection. Encourage them to give you their fullest confidence. In their little trials, disappointments, and strifes, offer them your sympathy, and lift them above their weaknesses—not by making them conscious to mortification of their existence, but by inspiring them with true manly sentiments. A wise, loving mother is a young man's palladium of safety. The thought of her is a sphere of protection surrounding him all the day, and keeping his mind pure amid a thousand allurements to vice. Be very careful, then, to do nothing that will make your son's thought of you oppressive or repellant. Oh, let your image ever lie in sunshine on his heart. So shall your love hold him back in the hour of temptation with chains of gold.—*Arthur's Magazine.*

How beautiful and exalted are the following sentiments of De Witt Clinton:

"Pleasure is a shadow, wealth is vanity, and power a pageant, but knowledge is ecstatic in enjoyment, perennial in fame, unlimited in space, and infinite in duration. In the performance of its sacred offices it fears no danger, spares no expense, omits no exertion. It scales the mountain, looks into the volcano, dives into the ocean, preforates the earth, encircles the globe, explores sea and land, contemplates the distant, ascends the sublime. No place too remote for its grasp, no heaven too exalted for its reach."

THE REWARD OF COURTESY.

A TRUE ACCOUNT.

A FEW years since, on a radiant spring afternoon, two men, who, from their conversation, appeared to be foreigners, stopped before the gate of one of our large workshops in Philadelphia, for the manufacture of locomotive engines. Entering a small office, the elder of the two men inquired of the superintendent in attendance if he would permit them to inspect the works.

"You can pass in and look about if you please;" said the superintendent, vexed apparently at being interrupted in the perusal of his newspapers. He then scanned the two strangers more closely. They were respectably but plainly clad, and evidently made no pretensions to official dignity of any kind.

"Is there any one who can show us over the establishment, and explain matters to us?" asked Mr. Wolfe, the elder of the strangers.

"You must pick your own way, gentlemen," replied the superintendent, "we are all too busy to attend to every party that comes along. I'll thank you not to interrupt the workmen by asking questions."

It was not so much the matter as the manner of his reply, that was offensive to Mr. Wolfe and his companion. It was spoken with a certain official assumption of authority, mingled with contempt for the visitors, indicating a haughty and selfish temper on the part of the speaker."

"I think we will not trouble you," said Mr. Wolfe, bowing; and taking his companion's arm, they passed out.

"If there is anything I dislike it is incivility," said Mr. Wolfe, when they were once in the street. "I do not blame the man for not wishing to show us over his establishment; he is no doubt annoyed and interrupted by many heedless visitors; but he might have dismissed us with courtesy. He might have sent us away better content with a gracious refusal than with an ungracious consent."

"Perhaps we shall have better luck here," said the other stranger; and they stopped before another workshop of a similar kind. They were received by a brisk little man, the head clerk, apparently, who, in reply to their request to be shown over the establishment, answered, "Oh, yes!" come with me, gentlemen. This way." So saying, he hurried them along the area, strewed with iron bars, broken and rusty heaps

of iron, and fragments of old cylinders, into the principal workshop.

Here, without stopping to explain any thing, he led the strangers along with the evident intention of getting rid of them as soon as possible. When they paused where the workmen were riveting the external coating of a boiler, the clerk looked at his watch, tapped his foot against an iron tube, and showed other signs of impatience. Whereupon, Mr. Wolfe remarked—"We will not detain you longer, sir," and with his friend, took leave.

"This man is an improvement on the other," said Mr. Wolfe; "but all the civility he has is on the surface; it does not come from the heart. We must look further."

The strangers walked on for nearly half a mile in silence, when one of them pointed to a picture of a locomotive with a train of cars underneath. It overtopped a small building, not more than ten feet in height, communicating with a yard and workshop. "Look," said the observer, "here is a machinist whose name is not on our list. Probably it was thought too small a concern for our purpose," said his companion. "Nevertheless let us try it," said Mr. Wolfe.

They entered, and found at the desk a middle-aged man, whose somewhat grimmy aspect and apron round his waist, showed that he divided his labors between the workshop and the counting-room.

"We want to look over your works, if you have no objection."

"It will give me the greatest pleasure to show you all that is to be seen," said the mechanic, with a pleased alacrity, ringing a bell, and telling the boy who entered to take charge of the office.

He then led the way, and explained to the strangers the whole process of constructing a locomotive engine. He showed them how the various parts of the machinery were manufactured, and patiently answered all their questions. He told them of an improved mode of tubing boilers, by which the power of generating steam was increased, and showing with what care he provided for security from bursting.

Two hours passed rapidly away. The strangers were delighted with the intelligence displayed by the mechanic, and with his frank, attentive, and unsuspicious manners. "Here is a man who loves his profession so well that he takes pleasure in explaining its mysteries to all who can understand them," thought Mr. Wolfe.

"I am afraid that we have given you a deal of trouble," said the other stranger.

"Indeed, gentlemen, I have enjoyed your visit," said the mechanic, "and shall be glad to see you again."

"Perhaps you may," said Mr. Wolfe, and the strangers departed.

Five months afterwards, as the mechanic, whose means were quite limited, sat in his office, meditating how hard it was to get business by the side of such large establishments as were his competitors, the two strangers entered. He gave them a hearty welcome, handed chairs, and they sat down.

"We come," said Mr. Wolfe, "with a proposition to you from the Emperor of Russia."

"From the Emperor? Impossible!"

"Here are our credentials."

"But, gentlemen," said the now agitated mechanic, "what does this mean? How have I earned such an honor?"

"Simply by your straight forward courtesy and frankness, combined with professional intelligence," said Mr. Wolfe. "Because we were strangers, you did not think it necessary to treat us with distrust or coldness. You saw we were in earnest in acquainting ourselves with your works, and did not ask us, before extending to us your civilities, what letters of introduction we brought. You measured us by the spirit we showed, and not by the dignities we could have exhibited."

The mechanic visited St. Petersburgh, and soon afterwards removed his whole establishment there. He had imperial orders for as many locomotive engines as he could construct. He has lately returned to this country, and is still receiving large returns from his Russian workshop. And all this prosperity grew out of his unselfish civility to two strangers, one of whom was the secret agent of the Czar of Russia.

BENEVOLENCE.

A BENEVOLENT mind is a happy one; it cannot well be otherwise, for it is a law of our nature to be made happy by making others so. Evil passions and acts cannot exist with a truly benevolent man. He loves to see others happy and therefore delights to make them so, hence

there can be no temptation to any act or feeling of injustice. Their happiness is his also, and he therein finds the truth of that divine saying: "It is more blessed to give then to receive." And not unfrequently is it found that in the Providence of God the liberal soul is made fat. John Bunyan, that quaint old divine, who has presented many moral truths in his "similitude of a dream," had very correct views on the subject; and when he set his pilgrims to "cracking nuts" and "telling riddles," he puts the following in his own peculiar style of verse:

"There was a man, though some did
count him mad,
The more he gave away the more he had."

The benevolent man would find no difficulty in finding out the solution of this riddle—his own experience has already furnished an answer—he knows that for every act of his in which he has cast his bread upon the waters, he has received a rich reward, and if not in like kind, which is often the case, it has been in the true enjoyment of doing good and making others happy, more than tenfold. Works of benevolence always pay good interest, and happy is he who makes such investment.

GEOLOGY.

Dr. Hitchcock, the distinguished and learned geologist of Massachusetts, argues that science, no less than the Bible, distinctly places man among the most recent of created things. The surface of the earth is found to be composed, to the depth of some eight or ten miles, of rocks. These rocks are full of the remains of animals and plants. Thirty thousand species of them, which differ from any living species, have been disinterred, yet, says Dr. Hitchcock, we never find among them human remains until we reach the loose soil — alluvium — which on all sides is granted to be of very recent origin. The remains of other animals are found several thousand feet below the surface, while the fossil remains of man are believed never to have been found so low as one hundred feet below the surface. But if man had been in existence when these other animals lived, whose remains were found at such depths, his remains would also have been found there. His bones are of the same structure as theirs, and no less likely to resist destruction — for, upon ancient battle-fields are found mingled the bones of men, horses, elephants, all in the same stages of decay or preservation.

DOUGLAS ON VERMONT.

I was born away down in Yankee land —I was born in a valley in Vermont, with the high mountains around me. I love the old green mountains and valleys of Vermont where I was born, and where I played in my childhood. I went up to visit them seven or eight years ago, for the first time in twenty odd years. When I got there they treated me very kindly. They invited me to the commencement of their college, placed me on the seats with their distinguished guests, and conferred upon me the degree of LL.D. in Latin, the same as they did on Old Hickory at Cambridge, many years ago, and I give you my word and honor I understand just as much of the Latin as he did. When they got through conferring the honorary degree, they called upon me for a speech, and I got up with my heart full and swelling with gratitude for their kindness, and I said to them: "My friends, Vermont is the most glorious spot on the face of this globe for a man to be born in, *provided* he emigrates when he is very young.—*Speech on the stump in Illinois.*

RAILWAYS IN THE BRITISH PROVINCES.

The European and North American Railway is rapidly progressing between Halifax and St. John. On Saturday, Oct. 9th, the balance of the line in New Brunswick, 28 miles, was let, and the work declared off at favorable prices. The entire line from St. John to Shediac Harbor, 122 miles from St. John, will be finished in all of 1859. The portions of the line completed are well built, and in fine working order. The expenditures are limited to £200,000 sterling, or $1,000,000 per year. As soon as the line is completed East to the Nova Scotia frontier, the work of construction will be entered upon to extend the line to the boundery of Maine.

In Nova Scotia the work is still more advanced, and the main line is in progress to Turo, with a branch already constructed to Windsor.

The St. Andrews and Quebec Railroad is in good progress, and will reach

Howard Settlement, 26 miles from Houlton, in the course of the coming month.

NEW-YORK AGRICULTURAL COLLEGE—OVID, SENECA COUNTY, N. Y.

The Trustees met at Ovid, September 14th, and completed a contract with Thomas Crawford, of Geneva, an experienced and energetic builder, for the erection of buildings on the College Farm. Mr. Crawford commenced work on the 15th, and intends to have the first story complete this fall—and the whole building ready for the opening of the Institution next season. We congratulate the farmers that the preparations for the School will now go forward without interruption. The contract entered into is a very favorable one, and the character of the contractor insures a building worthy of the State.—*Jour. N. Y. State Ag. Soc.*

CULTIVATE CHEERFULNESS.

An anxious, restless temper, that runs to meet care on its way, that regrets lost opportunities too much, and that is over pains-taking in contrivances for happiness, is foolish, and should not be indulged. If you cannot be happy in one way, be happy in another, and this facility of disposition wants but little aid from philosophy, for health and good humor are almost the whole affair. Many run about after felicity, like an absent man hunting for his hat, while it is on his head or in his hand. Though sometimes small evils, like invisible insects, inflict great pain, and a single hair may stop a vast machine, yet the chief secret of comfort lies in not suffering trifles to vex one, and in prudently cultivating an under-growth of small pleasures, since very few great ones, alas! are let on long leases.—*Richard Sharp.*

LARGE INCOMES IN ENGLAND.

There are forty-six persons in England who have incomes of £450,000 a year, equal to two millions and a quarter dollars, while four hundred and forty-four persons have incomes ranging from fifty to two hundred and fifty thousand dollars a year, and eight hundred and eleven from twenty-five to fifty thousand. In Ireland there is but one person who has an income of upwards of two hundred and fifty thousand dollars; twenty-one have incomes from fifty thousand to two hundred and fifty thousand and thirty from twenty-five to fifty thousand dollars.

BOOK NOTICES, ETC.

Annual of Scientific Discovery for 1858, or Year Book of Science and Art. By David A. Wells, A. M.; Boston, Gould & Lincoln; New-York, Sheldon, Blakeman & Co.; Cincinnati, George J. Blanchard. 1858. 419 pages, 8vo.

This book gives the most important discoveries in Mechanics, Useful Arts, Natural Philosophy, Chemistry, Astronomy, Geology, Zoology, Botany, Mineralogy, Meteorology, Geography, Antiquities, &c., also a list of recent scientific publications, a classified list of patents, obituaries of eminent scientific men, and notes on the progress of Science during the year 1857. It is a work which all who would keep pace with the age should have, and is specially useful for the inventor, the engineer, and the practical machinist. No man who claims to be scientific should be without it.

The Science of Common Things; A Familiar Explanation of the First Principles of Physical Science, for Schools, Families and Young Students; Illustrated with numerous engravings. By David A. Wells, A. M.; New-York, Ivison & Phinney, 321 Broadway. 1858. 323 pages, 8vo.

In this work Mr. Wells has undertaken to do for the mass of readers, what many have attempted and few succeeded in—to bring the important and useful discoveries of science within the comprehension of persons not professedly students, by the avoidance of technical terms, and an easy and natural explanation of the facts and phenomena of nature, applying them as he proceeds to the various useful purposes and industries of life. We think he has succeeded admirably; and we wish the book were in every family in the land. He writes well for the learned, but what is more important, quite as well for learners.

THE AMERICAN DEBATER; A Plain Exposition of the Principles and Practice of Public Debate By James N. McElligott, LL.D., Author of the "Analytical, Manual," "Young Analyzer," etc. New-York, Ivison & Phinney, 321 Broadway. 1858. 323 pages, 8vo.

What is a Good Debater, Extemporaneous Speaking, Preliminary Instructions, Rules of Order, Privileged Questions, Previous Questions, Motions to Amend, Motions to Commit, Questions of Order, Parliamentary Rules, Qualifications necessary to a Deliberative Orator, the Constitution of the United States, &c., &c, constitute the subjects of this work. For all desirous of self-improvement in public speaking, and especially for any who are liable to be called upon to preside in deliberative assemblies, it cannot fail to be found useful. It is not a little mortifying, when one is honored by being called to the chair, and finds himself ignorant of his duties. This book is adapted to prevent such mortification, and to save the time of public meetings.

SIR WALTER RALEIGH AND HIS TIMES, with other papers. By Charles Kingsley, Author of "Hypatia," "Two Years Ago," &c., &c. Boston, Ticknor & Fields; New-York, Sheldon, Blakeman & Co., 115 Nassau St. 1858. 461 pages, large 8vo.

A short title to a large and well-filled book. It will be read with pleasure by all who love to contemplate the character of our ancestors in England, and among the early settlers of this country. For sale at Sheldon, Blakeman & Co's.

A JOURNEY DUE NORTH; being notes of a residence in Russia. By George Augustus Sala. 459 pages. Boston, Ticknor & Fields; New-York, Sheldon, Blakeman, & Co., 115 Nassau st. 1858.

The Journey Due North, is a summer trip to Russia by an Englishman—a description Russian life, manners, dress, religion, government, &c., &c. As a book of travels, detailing what the author saw, it possesses an interest common to such works.

THE OBJECT OF LIFE; A narrative illustrating the insufficiency of the *world* and the sufficiency of *Christ*. Four illustrations. New-York; Published by Carlton & Porter, Sunday-school Union, 200 Mulbery street. 1858, 357 pages, large 8vo.

Here is a book, richly worth reading, neatly printed, put up in beautiful style, not a breath of sectarianism in it, everywhere uttering a pure, practical, heaven-descended, heavenward-inviting Christianity.

THE HISTORY OF THE RELIGIOUS MOVEMENT OF THE EIGHTEENTH CENTURY, called Methodism, considered in its different denominational forms, and its relations to British and American Protestantism. By Abel Stevens. Vol. 1, From the origin of Methodism to the Death of Whitefield. Fifth thousand. New-York; published by Carlton & Porter, 200 Mulbery street. London; Alexander Heylin, 28 Paternoster Row. 480 pages, 8vo.

Dr. Stevens has undertaken a great and good work, and has thus far accomplished it to the warm exceptance, not only of his own denomination, but of all right-thinking, candid and liberal minded men. We say read his work, and although you may not be a Methodist, as we are not, yet see who have been the supporters of sobriety, temperance, *honest* living and active piety for the last century, and what Anglo-Saxondom, at this moment owes to "the movement called Methodism."

WORDS THAT SHOOK THE WORLD; or, Martin Luther his own Biographer, being pictures of the great Reformer, sketched mainly from his own sayings. By Charles Adams. New-York; Published by Carlton & Porter, Sunday-school Union, 200 Mulbery street. 333 pages, 8vo.

This is a graphic delineation of the greatest, purest, and best, but most abused of men, whose memory a majority of the civilized world, calling itself the only true church, has for three cen-

turies belied, without harming it a whit in the estimation of intelligent and unprejudiced men. To the solidity of history this work adds the charms of biography, keeping the hero ever before the reader—more interesting than a novel, and as true as holy writ.

SIX STEPS TO HONOR; or, Great Truths Illustrated. By H. P. Andrews, Author of "The Sure Anchor." New-York; Published by Carlton and Porter, Sunday-school Union, 200 Mulbery street.

This is a beautifully executed little book, of 299 pages, written expressly for boys. The Six Steps to Honor, which it illustrates in a most pleasing manner, adapted at once to secure attention and leave a lasting impression, are Obedience, Truthfulness, Honesty, Kindness, Perseverance and Piety. We most heartily commend it to boys, as a book which we believe they will find as gratifying as instructive.

DOMESTIC ANIMALS; A Pocket Manual of Cattle, Horse and Sheep Husbandry; or, How to breed and rear the various tenants of the barn-yard. By the author of "How to do Business," "The Garden," etc. New-York: Fowler & Wells, Publishers, 308 Broadway. 1858. 168 pages, 8vo.

We believe the author of this Manual aims not so much to be original as to be useful. It seems to have been his object to condense into a work that could be sold for 50 cents, the greatest possible amount of valuable matter for the husbandman. We heartily commend his work to our readers, as one which we do not fear they will hereafter blame us for bringing to their notice, with a high commendation.

LECTURES TO CHILDREN, familiarly illustrating important truth. Second Series. By Rev. John Todd, D.D., author of the "Student's Manual," "Truth made Simple," etc. With original illustrations. Northampton; Hopkins, Bridgman & Co. 1858. 276 pages.

Whoever has heard Dr. Todd preach, as we often have, knows full well his aptness to teach persons of all ages. But no one could know, nor would he have known himself till he had tried, whether he could write a book that children would read, and would be the better for reading. Twenty years ago he tried the experiment, and was eminently successful; and we have no doubt that the second series will succeed equally well—lead thousands of children, by a road they will delight to follow, to a knowledge of "Important Truth."

MILCH COWS AND DAIRY FARMING; comprising the Breeds, Breeding and Management, in Health and Disease, of Dairy and other stock; the selection of milch cows, with a full explanation of Guenon's method, the culture of forage plants, and the production of milk, butter and cheese; embodying the most recent improvements, and adapted to farming in the United States and British Provinces; with a Treatise on the Dairy Husbandry of Holland; to which is added, Horsfall's System of Dairy Management. By Charles L. Flint, Secretary of the Massachusetts State Board of Agriculture, author of a "Treatise on Grasses and Forage Plants," etc. Liberally illustrated. New-York; published by A. O. Moore, 140 Fulton street. Boston; A. Williams & Co. Philadelphia; J. B. Lippincott & Co. Cincinnati; Rickey, Mallory & Co. 1858. 416 pages, large 8vo.

From our long acquaintance with Secretary Flint, having been several years associated with him in the Massachusetts Board of Agriculture, as well as from his known patience of investigation, and the rich opportunities he has enjoyed for gaining a practical knowledge on the topics of which he treats, we have every confidence that this work is all that its title-page would lead any one to expect. We have not, however, had time to read it with such care as its importance demands; and as we have had a long list of books to notice in this number, with scarcely an exception, excellent of their kind, we will review this more at length in our next, when we

shall give our readers the best means in our power of judging of its character and adaptation to their wants.

After noticing so many books, most of which we have felt constrained to commend, we cannot but add, that if intelligence and honesty are the ground-work of popular government, there certainly is hope for the republic, so long as such books as are now noticed are demanded and read by the people.

But here comes another book, which we had overlooked, thinking we had kept the best for the last, and finished the job. It is;—

THE LIFE OF STEPHEN BURROUGHS. By Himself. M. N. Spear, publisher, Amherst, Mass. For sale by all booksellers. 1858. About 400 pages.

Stephen Burroughs was one of the most remarkable men who have lived. The son of a Presbyterian clergyman; whipped in early life more than was wise, though perhaps not more than he deserved; a rascally boy, playing tricks upon everybody, and generally getting the worst of it before he had done; stealing bee-hives, prosecuted for it, running away from college, preaching his father's old sermons, chased out of town for it; marrying a beautiful girl, and then making love to the older girls in his school; sinning and suffering along life's pathway; sometimes in State prison, and at others breaking out; now convicted of a crime he never committed, and anon escaping when guilty; honorable in some things almost to a fault, and in others too mean for contempt; as if now a good genius led him at will, and then the devil and all his imps had complete control; a beautiful and chaste writer, at one time repeating his best aspirings, and at another his meanest acts, and both with astonishing coolness; tired at length of breaking law, and getting punished for it, and so going to Canada and flooding these States with counterfeit money, without breaking any law, because there was then no law there on the subject; ceasing at length from overt trangressions; becoming penitent, or at least assuring his priest he was so; dying at an old age, in a calm retreat furnished him by an excellent and prosperous son, and going ———

But we are saying too much. Nobody can understand Stephen Burroughs *without* reading his autobiography; and, if they can *with*, they can do more than we can.

In spite of us, here comes another, (why didn't they send it sooner)—a book, which, for the sake of our Juniors, and perhaps of some bachelors tired of celibacy, we must not neglect;—

THE COURTSHIP OF MILES STANDISH, and other poems. By Henry Wordsworth Longfellow. Boston; Ticknor & Fields. For sale by Michael Doolady, 304 Broadway, and by Sheldon, Blakeman & Co., 115 Nassau street.

We are an admirer of Longfellow, thinking some of his effusions equal to any we have ever read. This has but just reached us, and we have not read it. We mean to, at the first opportunity; and we advise others to do so, especially those who may have on hand or in contemplation the delicate and important business to which this book relates. Captain Miles Standish was a hero and a thorough going man in whatever engaged him, and the presumption is that he did up the business in a very manly way, worthy perhaps of the imitation of Young America. Read and see.

An unexpected call to leave the city for a few days before our last sheet goes to press, prevents our preparing an article specially for the children as we had promised. We will try not to neglect them in our next.

WE invite the attention of our readers to an offer in our advertisement to furnish this work to new subscribers, from the time of subscribing, and one month

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And how much better that the subscriber should retain a cash premium in his own hands, than rely upon something being sent, which he could get at a better lay for his money.

See advertisement of Long Island land.

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[Publishers who will insert this and send us a marked copy of their paper, shall receive this work one year without exchange.]